KINETIC FAMILY DRAWINGS AS INDICES OF FAMILY FUNCTIONING

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ABSTRACT

Kinetic Family Drawings (KFDs) are Projective drawings which require the drawer to give `action' to the depicted figures. A number of studies have been conducted following its inception in 1970. (Burns & Kaufman, 1970; 1972). Upon examination of these studies, however, it is evident that those studies pertaining to aspects of family functioning obtained significant results to a greater degree. It was the contention of the present study, that the KFD may be measuring aspects of family functioning. The present study thus incorporated a measure of family functioning, the McMaster Family Assessment Device (FAD) (Epstein, Baldwin & Bishop, 1983), to assess whether KFD depictions were indices of family functioning.

The results were obtained through KFDs of 96 individuals who constituted 24 families. These individuals consisted of (n=48) parents and (n=48) adolescents. Due to constraints of research design, there were unequal numbers of males and females i.e. 38 males and 58 females.

KFD protocols were scored according to the scoring format suggested by Burns (1982) and further developed by Steenhuisen (1987). The FADs were rated according to the recommendations of Epstein et al. (1983). During pilot testing, it had become evident that individuals tended to be depicted according to work-related or recreational activities. Thus, this demographic information was collected from each participant and compared to the `action' content of each drawing in a descriptive manner.

Correlations between gender and each dimension of the research instruments were calculated to assess effects of gender upon results. KFD protocols were re-scored by a rater who was `blind' to the purpose fo the research. Finally, a

post-experimental enquiry was undertaken to assess the extent of effects of demand characteristics upon results.

The results of the present study indicated that the KFDs were indices of family functioning, with specific reference to the Communication, Role, Affective Responsiveness and General Functioning FAD dimensions. Non-parametric analyses of drawing parameters revealed that adults and adolescents tended to depict their families similarly i.e. they tended to utilize similar drawing parameters. Correlations between gender and FAD and KFD dimensions indicated that gender and one KFD variable, Characteristics, was significantly correlated. Analysis of the `action' content of the participants' drawings revealed that individuals tended to be depicted in work-related or recreational activities. Correlations between the two raters indicated that drawings were scored similarly by the two raters. The results pertaining to the post-experimental study indicated that the effects of demand characteristics were minimized during data collection by the research design.

It was tentatively concluded that KFDs may be considered as indices of family functioning, although future research is required to substantiate this claim, as the present study represents the first exploration of all family members' KFDs in conjunction with family assessment methods.

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CHAPTER ONE
Kinetic Family Drawings

1.1 Introduction

This chapter will examine Kinetic Family Drawings (KFDs), which are drawn to include all family members (Burns & Kaufman, 1970; 1972). The KFD has been described as a Projective technique (Klepsch & Logie, 1982), which is a "measure of the self in relation to others" (p.25). The identifying characteristic of this drawing technique is that the drawer is asked to give action to the figures i.e. each figure must be depicted as involved in some activity. The analysis of the KFD thus includes the action or movement between family members.

The underlying assumption of the drawing technique is that family members are able to `Project' their perceptions of significant others into the drawing constellation. Therefore, in order to facilitate understanding of the Kinetic Family Drawing, a definition regarding the concept of Projection will be offered. Thereafter, a short discussion regarding general Family Drawing tests will be presented in order to provide background to the KFD. Thereafter, an historical review of the KFD will be presented. This will facilitate a critical discussion regarding the findings and methodology of KFD studies, and will be followed by a critique of the methodology and findings of those studies. Finally, some directions for research will be offered in conjunction with concluding remarks.

The KFD will be treated in comprehensive detail in succeeding subsections. It is important however, to first examine the Projective hypothesis as this is central to the Kinetic Family Drawing.

1.2. The definition of Projection and Projective techniques

Originally, the term `Projection', involved only psychopathological connotations (Rabin, 1981), and was viewed as a defence mechanism. Its major purpose is to enable the individual to avoid experiencing guilt or anxiety. As Zubin, Eron & Schumer (1965 p.7) have stated that

> "Projective techniques...provide the avenue by which material is `projected' which in ordinary experience never becomes projected externally but remains enclosed in the personal life of the individual."

Semeonoff (1976) contends that if responses to a Projective technique are to be interpreted in this way, fantasy material should represent attitudes or behaviour patterns that are rejected by the individual and at least atypical rather than typical. A broader definition of Projection may be that an object is recognized or identified in line with personal feelings, interests and desires in an unwitting way, which is `triggered' by the structure of the stimulus. (Rabin, 1981).

Lindzey (1961 p.45) proposed a definition of Projection which is an attempt to combine varied notions and provides the foundation for the present study namely:

> "A projective technique is an instrument that is considered especially sensitive to covert or unconscious aspects of behaviour, it permits or encourages a wide variety of subject responses, is highly multidimensional and it evokes unusually rich and profuse response data with a minimum of subject awareness concerning the purpose of the test."

Following this definition, a brief discussion of the assumptions underlying Projective techniques will be offered, and thus facilitate an understanding of the primary components of the Kinetic Family Drawing.

1.2.1. Underlying assumptions of Projective techniques

Following the definition proposed by Lindzey (1965), Anastasi (1976) states that the major distinguishing factor concerning Projective tests is that the task given to individuals is relatively unstructured which "permits an almost unlimited variety of possible responses" (p.564). To allow the individual this freedom, instructions are generally brief and the test stimuli are usually ambiguous. The underlying assumption is that individuals will perceive or structure the test material in alignment with aspects of his or her individual functioning. Therefore, the test material enables the individual to `Project' personal thoughts, processes, and conflicts.

In order for this process to occur, the Projective procedure is somewhat disguised, as participants are usually unaware of the direction of psychological interpretation of the test material. Moreover, proponents of Projective techniques argue that the more unstructured the test, the more likely it will be that unconscious or latent aspects of functioning will be revealed.

Anastasi (1976) points out that Projective techniques originated within a clinical setting and, as such, have relied on Psychoanalytic interpretation. She does state, however, that "a procedure may prove to be practically useful or empirically valid for reasons other that those initially cited to justify its introduction" (p.565). This

comment is especially important when the rationale for the present study will be examined.

In Klopfer and Taulbee's (1976) review of Projective tests, they present convincing arguments for the techniques' continuing popularity, stating that in American journals alone, 500 articles pertaining to Projection appeared from 1971 through to 1974. The three Projective Tests that have retained popularity are the Rorschach, TAT and Human Figure Drawings. This finding is substantiated by Wade, Baker, Morton and Baker (1978) who found that out of 500 clinicians interviewed, Projective tests were recommended approximately 30% more often than objective tests, with 65 of those clinicians using `picture tests'. Other points to note with regard to projective tests are that they represent an effective means with which to `break the ice', in that many people find the task less threatening and more enjoyable than Objective tests; further, those who are illiterate or at a non-verbal stage of development are not excluded from using the tests; Projective tests are also less susceptible to faking in some instances (Anastasi, 1976).

Frank's (1948) monograph contains a useful schema with which to classify Projective techniques. Each category has idiomatic components. This classification is also pertinent to the present study and is therefore outlined as follows:

1. Constitutive Methods

Subjects are required to `impose structure' upon as yet relatively unstructured material, such as responses to the Rorschach.

2. Constructive Methods

Subjects are required to sort materials of a definite shape and size into larger configurations. In the case of drawings, if they are to be considered a constructive

method, the subject must be asked to draw something e.g. a figure.

3. Interpretative Methods

The subject is required to interpret a situation or action in which he or she finds some personal meaning, such as the Thematic Apperception Test (TAT).

4. Cathartic Methods

Frank felt that some techniques were specifically designed for this, although all projective techniques permit the possibility of release of affective reactions. An example of a cathartic method provided by Frank is clay modelling.

5. Refractive Methods

Idiomatic behaviours constitute this category namely, expressive movements, tone of voice, and gestures.

It would seem that Projective techniques are still viewed as important clinical tools. There has however been criticism levelled at Projective techniques. Therefore, the following section will outline some major criticisms. As this discussion will provide background to the critique of KFDs, and to the rationale of the present study, only those criticisms pertinent to drawing techniques and the design of this present study will, however, be examined. Therefore, this section is not intended to be an exhaustive review.

1.2.2. Criticism of Projective techniques

Klopfer and Taulbee (1976) point out that many Projective tests are inadequately standardized with respect to both administration and scoring, which could affect responses. Further, lack of objectivity in scoring can lead to spurious data evaluations and may reduce the number of examiners who

are qualified to utilise the technique. Thus, results obtained by various examiners may not be comparable.

Normative data is often lacking (Anastasi, 1976) leading clinicians to then interpret test performance according to internal frames of reference, which may be inadequate or biased.

Validity and reliability are fundamental methodological issues. Anastasi (1976) points to many investigations of Projective techniques which have demonstrated marked divergence in the interpretations given by well-qualified test users. She states that neither high nor low scorer reliability can be directly generalized to other scorers who differ from those utilized in preliminary investigations.

In validation, a common source of error which can arise from reliance on clinical experience in the validation of diagnostic signs is "illusory validation" (Anastasi, 1976 p.586). She states that this may account in part for the continued use of instruments and systems of diagnostic signs for which empirical validity findings are predominately negative. Further, responses to test material may be stimulus-specific and thus of questionable generalizability.

The preceding subsection has demonstrated that Projective techniques may be assessed by some theorists as inadequate when evaluated in accordance with objective test standards. Yet, as has been shown, Projective tests still enjoy considerable support.

According to both Anastasi (1976) and Semeonoff (1976), there is an important distinction between test and techniques, especially with reference to Projective techniques. They both contend that Projective instruments are not true 'tests'. It is important to briefly discuss

this distinction, as this will have implications for the present study.

A test usually implies approximation to measurement (Semeonoff, 1976). Projective techniques, however, provide a basis for quantifying certain aspects of behaviour. That is. it is possible to count the number of times a subject has responded in a certain way. Whether this allows the Psychologist to locate the subject on a continuum or to determine the subject's `score' on a given trait or other construct is another matter. According to Semeonoff (1976), the nature of Projective psychology is that this is seldom attained. Zubin et al. (1965) point out however, that assessment procedures can approximate objectivity by ensuring minimal examiner effects and rigorously defining scoring procedures. They maintain that although many theorists argue objective tests satisfy `true' objectivity,[1] Zubin et al. contend this is not so.

> "It is not the significance or meaning of the stimulus which is at stake, for this can be inferred only from the response. It is rather the interpretation of the response by the examiner which is the core issue." (p.21)

Therefore, according to Zubin et al. the assumption of a clear dichotomy between objective and subjective tests is invalid. They contend that many objective tests do involve considerable subjectivity in scoring procedures and that some Projective devices could be scored objectively. This

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1. Zubin et al (1965 p.20) state that some theorists feel that true objectivity in a test can only be achieved when the stimulus situation has the same significance for all subjects, and that agreement in scoring is only part of the validation process.

implies that if the Projective technique has an objective scoring method, the technique may be viewed as `approximating' objectivity, which is perhaps, the aim of any Psychological test or technique (Anastasi, 1976). Thus, Projective techniques may be considered useful procedures enabling the documentation of individual functioning. This conclusion will have important implications in the discussion regarding the rationale for the present study.

The following section will introduce the Kinetic Family Drawings through discussion of the concept of drawing and a short historical review of Projective family assessment techniques.

1.3. Projective drawing techniques

1.3.1 Definition of Projective drawings

According to Klepsch and Logie (1982), drawings are means of gaining insight into personality, perception of self in relation to others, group values and attitudes.

> "Drawings add a dimension not tapped by self-report or observation techniques, the dimension of fantasy and imagination." (p.11)

Hammer (1981) states that in Projective drawings, the subjects conscious and unconscious perception of self and of significant others determine the content of the drawing. Hammer contends that unconscious levels of the subject are expressed in symbolic ways, whose meaning is entrenched in theories of dreams, myths, folklore and so on.

1.3.2. Definition of family drawings

DiLeo (1973) maintains that family drawings are `coloured' by affective components. He states that

> "It is precisely this mobilization of feelings that, while rendering the family drawing less valuable as an indicator of intelligence, confers upon it significance as an expression of the child's emotional life." (p.100)

Semeonoff (1976 p.17) states that, following Frank's (1948) schema, family drawing techniques should be classified as constructive methods, and that

> "Free expression is the primary factor involved. That is, responses are molded by the subject."

As KFDs constitute only one Projective family assessment technique amongst many which utilize drawings, it is appropriate to briefly describe the major Projective family assessment techniques, in order to facilitate discussion regarding the rationale for the use of the KFD in Chapter 3.

1.4. Review of Projective family assessment techniques

Tests of family relations include the Test of Family Attitudes (Jackson, 1964), the Family Relations Indicator (Howells and Lickorish, 1967), the Family Relations Test (Anthony-Bene, 1957), The Two Houses Technique (Szyrynski, 1963), The Interpersonal Perception Method (Laing, Phillipson and Lee, 1966) and Kinetic Family Drawings (Burns and Kaufman, 1970; 1972).

The Test of Family Attitudes consists of seven pictures (with, in one instance variant versions for boys and girls).

The method of administration is similar to the TAT, and is intended for children aged about 6 to 12 years. Each subject is required to tell a story about each picture. Jackson's early work compared the results of normals, delinquents and neurotics, and found that fifteen themes differentiated significantly between those groups at the 0.01 significance level. Semeonoff (1976) maintains that this instrument is not very sophisticated as the age range is limited and the pictures used are not very comprehensive.

The Family Relations Indicator (FRI) was developed for use with both parents and children. The complete material consists of 40 pictures, 16 of which show a boy as the principal character and 16 show a girl as the central character, identical in all respects to the male pictures. Eight other pictures are for use with all families i.e. those having boys only, girls only, or both girls and boys. Parents of families with both boys and girls are given the entire 40 pictures. The style is cartoon like, and subjects are asked what they think the depicted characters are doing and saying. Analysis of data consists of dividing the responses into information units which correspond approximately to a sentence form, and then classification into four categories namely: simple descriptions; interaction (subdivided into verbal and physical); personal features (relating to the individual and subdivided into attitudes of a general kind); feelings and traits; miscellaneous factors (including exclamations, `odd words' and anything else not classifiable under 1, 2 or 3).

According to Semeonoff (1976), the researchers do not claim that the FRI gives a complete description of all the relationships within a family. Semeonoff maintains that the FRI was introduced to Psychologists prematurely as statistical findings are meagre and interpretation of responses beyond the projective hypothesis is not called

for. The Indicator may be useful if all members of the family respond (Semeonoff, 1976). If views of the family evidenced in the various members' responses are similar, this is in itself of interest - taking into consideration that all perceptions of the family may be mistaken. If they differ, this too is of interest, even if it only reveals that the family members have different views about a family.

The Family Relations Test approximates a self report inventory, its aim disguised by the introduction of certain `play' features. This is intended to remove some of the threat that might be conveyed by direct questioning. The test exists in two forms, one for adults and one for children, and consists of 21 cardboard figures representing people of all ages, shapes and sizes, drawn in outlines. From these, the subject is asked to choose one to represent the self at some point in childhood and others to represent the members of the family at that time. The figures are attached to cardboard boxes, each with a slot like that of a money-box. Into these boxes are posted the item cards upon which are printed statements describing relationships and attitudes. The subject is instructed to read each card and to post it to whom the statement best fits. Peculiar to the adult form is that the instructions comply the subject to shift the point of reference between different periods in childhood. Semeonoff contends that responses may then be influenced by the confounding influence of changes in feeling through time. Although this instrument has been included in this section, it is not strictly a Projective technique; it has, however, some concordance with the FRI (Semeonoff, 1976).

The Two Houses Technique (2HT) has a small projective element. The child is asked to enumerate the members of the family. Stick figures are then drawn by the examiner at the top of the page, following which two similar houses are

added to the paper and the child is asked to suppose that the family has two houses to stay in and is required to indicate which members of the family will live in each house; the examiner then draws appropriately named figures in front of each house. Next, the child is asked to `invite' various members of the house in which he or she is not resident, to come and live in his or her house. The order of choice and any refusals are noted; this step is then reversed and the child is asked to send those members away. Semeonoff (1976) maintains that the 2HT has limitations: with a small family there is very little room for manoeuvre; furthermore, some children reject the idea of a second house. The aim of the test is, however, disguised with regard to the task of inviting and sending members away, which places it within the group of Projective techniques.

The Interpersonal Perception Method of Laing, Phillipson and Lee (1966), uses direct questions of couples to examine the dydadic relationship. Respondents are asked to give answers to 60 items, each consisting of four questions which are answered by both subjects. This technique thus consists of 720 questions for each spouse to answer, which is a daunting task; furthermore, a high level of sophistication is assumed, as indicated by the complexity of questions and may thus not be appropriate for all subjects (Semeonoff, 1976).

1.5. Summary and conclusion

The preceding subsections have provided background to Kinetic Family Drawings, which will be discussed comprehensively in following sections.

Firstly, the concept of Projection was examined. Recognizing that this is a contentious issue for some theorists, it was concluded that Projection allows for the avoidance of the experience of anxiety or guilt. Projective techniques permit

a wide variety of responses, due to the relatively unstructured tasks. The theorists thus far discussed have pointed to the unconscious material which Projective tasks are particularly suited to extracting.

The underlying assumption therefore is that individuals will perceive or structure the test material according to both conscious and unconscious modes of functioning, thereby enabling the individual to `Project' these internal thought processes.

Frank's (1948) classificatory schema placed family drawings in the constructive methods section, the criteria of which are fulfilled when the subject is required to draw a specific entity. The section on criticism of Projective techniques indicated that objectivity in scoring is important, with the recognition that Projective techniques are not `tests'; although a dichotomy between Objective and Projective `tests' does not exist. It was concluded that Projective techniques may be viewed as important clinical assessment tools.

Projective family drawings enable the mobilization of affective components of family functioning. A review of Projective Family Assessment techniques indicated that the Test of Family Attitudes does not allow for adult responses (although it purports to measure `family' attitudes). The Family Relations Indicator is to be used with both parents and children, but does not enable interpretation by the clinician. The Family Relations Test requires that the adult move between two frames of reference which may lead to erroneous results. The Two Houses Technique does not supply meaningful information if the family member size is small. The Interpersonal Perception method does not allow for a child's response and requires a reasonable degree of sophistication from the respondent. It was noted that KFDs

appear to be versatile in assessing individuals within a family structure. There are no restrictions on family size, nor are there restrictions on the gender of the drawer. Furthermore, the technique does not require a high degree of sophistication from the drawer, and, it has an objective scoring system which has been found to be reliable (Steenhuisen, 1987). Furthermore, the KFD has been utilized with adults and children, and its Projective element places it firmly within the category of Projective Family Assessment techniques.

This section has provided a summary and conclusions regarding the concept of projection and various family assessment techniques. The following sections will be wholly concerned with studies which have utilized Kinetic Family Drawings, their methodology and findings; this overview will facilitate a critical discussion and indicate major directions for research, and thus provide background to the rationale for the present study which will be presented in the third chapter.

1.6. Historical review of the Kinetic Family Drawing technique

1.6.1 Introduction

Kinetic Family Drawings are primarily `active' drawings as indicated in section 1.1. Family members are all depicted involved in some activity. Each drawing must include a depiction of the drawer, which enables interpretation of the interrelationships between drawer and the depicted members. It is a relatively unstructured task, and, administration instructions are brief, in keeping with other Projective techniques. The individual is asked to:

> "Draw a picture of everyone in your family, including you, doing something. Try to draw whole people, not cartoons or stick figures." (Burns and Kaufman, 1972 p.5)

Using 10,000 protocols of well-adjusted and poorly functioning children, Burns & Kaufman developed the KFD for use with five to twenty year olds by assessing the most frequently occuring drawing parameters. These were grouped into three main dimensions namely: Actions, Styles, and Symbols. In 1982, Burns redesigned these dimensions and scoring is now arranged under four main dimensions. These are Actions, Styles, Position Distance and Barriers, and Characteristics. These will be detailed in succeeding subsections. Burns & Kaufman advise that these dimensions are to be interpreted according to appropriate figure drawing theories, such as those of Machover (1949).

1.6.2. Dimensions of the KFD

1.6.2.1. Actions

Burns & Kaufman (1972 p.36) introduce the idea of movement or action as `energy' which has the capacity to vary in intensity between individuals. How this `energy' is used within the drawing will indicate whether people depicted are strangers or are familiar to each other. For example, there may be barriers erected between people, which is an indication of a lack of positive `action' between members. Other criteria which assume importance for interpretation are: figure communication level (which is rated on a continuum for figures depicted as sleeping to holding another figure); figure cooperation (also rated along a continuum from no cooperation to working together); masochism (from no masochism to being killed); nurturance (no nurturing or feeding); narcissism (from no narcissism to

figure depicted as looking in a mirror); sadism (from no sadism to killing); tension (from no tension to a figure depicted as falling).

1.6.2.2. Figure Characteristics

These include the content of the drawing. For example, the arm length of each figure is assessed. Other criteria include: eyes (whether they are absent or complete); facial expression; face (whether it is absent or complete); figure missing; teeth (whether they are absent or present); and number of siblings present.

1.6.2.3. Positional, Distance and Barrier Characteristics

This dimension includes parameters which separate figures. Therefore ascendence is considered (whether the head of the figure is depicted in the top, middle or bottom of the page) as is figure direction (whether figure is facing out of the drawing or facing major figures). Orientation between figures is also noted, as is the number of barriers between depicted figures.

1.6.2.4. Styles

This category is concerned with the `structural' aspects of the drawing, which will become apparent in listing its criteria: compartmentalization (dividing the drawing into segments); encapsulation (encapsulating individuals with, for example, a skipping rope); edging (when figures are depicted at the edges of the paper); folding compartmentalization (when the paper is physically folded to separate the figures); lining at the bottom (of the page); lining at the top (of the page); underlining individual figures; bird's eye view (family is drawn as if the drawer is suspended above them).

1.7. Kinetic Family Drawing studies

1.7.1. Introduction

The previous section outlined the primary components for the KFD. This section will examine the major studies undertaken using the KFD. An overview of KFD studies, reveals general trends in research interests. The largest section of research concerns the examination of the discriminative and diagnostic utility of the KFD (Sayed and Leaverton, 1974; Levenberg, 1975; Sobel and Sobel, 1976; McPhee and Wegner, 1976; Rhine, 1977; McGregor, 1978; Cummings 1980; Younger, 1982; Annunziata, 1983; Howitt, 1984; Jordan, 1985; Steenhuisen, 1987). Other researchers have compared responses on the KFD with other tests of family relations (Sims, 1974; Younger, 1982; Steenhuisen, 1987), examined the concurrent validity of the KFD (Younger, 1982), its test-retest reliability (Cummings, 1980; Mostkoff & Lazarus, 1983), attempted to integrate the KFD with the animal KFD (Knoff & Prout, 1985), used the KFD with adults (Schornstein & Derr, 1978; Howitt, 1984; Palkes and Marsh, 1986), attempted to develop objective scoring methods (O'Brien & Patton, 1974; Myers, 1978), and used components of the KFD to examine various theories and hypotheses concerning, amongst others; degree of intimacy and physical distance between members, enabling and examination of the relationship between the self figure and the mother figure (Elin and Nucho 1979; Holtz, Brannigan & Schofield, 1980; Brewer, 1980; Layton, 1984; Candotti, 1986).

As indicated by the trend overview, the KFD studies have been extremely varied. In order to ensure that the trends are easily comprehensible, the following section will examine the findings of each trend separately. This will

facilitate discussion regarding methodological issues and concomitant research directions.

1.7.2. Trend 1: The discriminative ability of the KFD

Sayed and Leaverton (1974) compared the KFDs of 52 insulin-requiring children and matched controls to delineate environmental factors in diabetic treatment, to gain an insight into the personality and emotional characteristics of children with diabetes, to observe body image distortion that a child with diabetes might have and to evaluate the KFDs for any factors which may be significant to a diabetic child, such as food, eating, cooking and sexual themes. The children were predominately white, with ages ranging from six to 16. Each drawing was evaluated randomly for 65 criteria considered important by the researchers for analysis, which were then grouped into 10 broad categories. These were: isolation; closeness; aggression; food; sexual themes; general body distortion; anxiety; denial of body parts; distortion of head or neck and distortion of arms or hands.

Using t-tests to analyse differences in mean scores of the two groups, the researchers found that children with diabetes depicted more examples of isolation than controls at the 0.05 significance level. Examples of isolation as cited by the researchers include: compartmentalization; folding compartmentalization; a single individual drawn separated from the others depicted by a predetermined distance; and a figure drawn facing away from the rest of the family members. They also found significant correlations between isolation and aggression depicted in the drawings of diabetic children at the 0.01 significance level. According to the researchers, aggression occured in different forms, such as competition sports between family members, including weapons in the activity depicted, and the depiction of

yelling or fighting. Children with diabetes also drew more figures lacking various body parts and more stick figures, significant at the 0.001 level. Furthermore, the control subjects who depicted closeness, also drew fewer general body distortions. There were, however, no significant differences in depictions of food, food related objects or activity related to food such as cooking or eating, between the controls and diabetic children. There were, however, no significant differences between experimental and control groups in the findings of scribbling, cross-hatching (using crosses in the drawing), or erasing between the two groups. Sayed and Leaverton maintain that the results of the study facilitate understanding of the dynamics of the families of diabetic children. The increased isolation that such children depict, is likely to be a factor in behaviour such as acting out and rebellion, which the researchers note, can impair the management efforts of caretakers.

Levenberg (1975) used secretaries, doctoral and predoctoral interns to assess their capabilities in diagnosing `normal' or `disturbed' functioning from KFDs. He found that all doctoral level clinicians and almost all of the intern group performed better than chance. He submits that this finding supports the validity of the KFD in measuring family dynamics, although the KFD is not primarily intended for such a task.

> "KFDs are viewed as very useful in examining family dynamics and a child's feelings not only related to self concept but also in the area of interpersonal relations." (p.392)

He upholds that comparative studies of family drawings made by both children and adults usually lead to interesting inferences concerning family dynamics. Some of these inferences can be substantiated by social history or other

sources. Some cannot be verified but can be considered as leads to be explored with the family.

To establish any discriminatory patterns, Sobel and Sobel (1976) examined the KFDs of 14 to 17 year old males, where half of the sample were institutionalized `delinquents' and the other half `normals'. The researchers predicted that the drawings of delinquents would indicate incomplete families or total absence of family members, body omission, lack of hands, lack of kinesis, (that is lack of action given to depicted figures) between familial members, aggressive interaction, encapsulation and conflict action if action was portrayed. Descriptive data used by the researchers shows that many of the predicted differences between the delinquent and control groups did not occur. There were some differences between the two groups on presence of family, omission of body and the existence of kinesis, the latter being significant. The researchers maintain that the discriminative power of the KFD was not demonstrated by their study, although they submit that results may have been quite different if their N had been larger. This would have enabled analysis of parameters whose frequencies of occurence were too low. They also found their subjects unwilling to depict the family and argued that the families still retained high emotive value for the delinquents. Once rapport is established, however, the researchers contend that the use of the KFD may have extensive clinical value.

McPhee and Wegner (1976) examined the KFDs of 264 moderately, severely and non-disturbed children, and used five judges to rate drawings according to the Styles discussed by Burns and Kaufman (1972). The researchers found that, contradictory to the findings of Burns and Kaufman (1970), drawings produced by well adjusted children evidenced more Style, according to total Style means. They also found that the Style lining on the bottom occured

significantly more frequently in the `normal' children's drawings. The researchers posited that emotionally well-adjusted children were able to spend more time and effort in producing the KFD than were the emotionally disturbed. This lead to more complex and creative drawings. Compartmentalization and lining on the bottom occured in drawings of both well adjusted and maladjusted children. This prompted the researchers to suggest that both groups required some form of `ordering' of their drawings as is taught in Western education. Folding compartmentalization did not occur in any of the 102 drawings produced by emotionally disturbed children. The authors suggest that a more exhaustive study should be undertaken, for example, to test whether specific Styles are related to specific personality traits. It was also noted that one study could not verify the diagnostic utility of the technique. Therefore, further research should be undertaken with larger samples.

Based on a test of personality, Rhine (1977) divided children into low and high adjustment groups. Chi-square analysis revealed no significant differences between high and low adjustment groups for variables scored for frequency of occurence. Rhine contends this indicated a failure to support the assumption of a relationship between the KFDs and adjustment levels in his study.

McGregor (1978) used KFDs to discriminate between `normals', conduct and phobic personalities. Each drawing was rated according to three primary variables - figure omissions, interfigure distance and barriers between figures. In addition, each drawing was rated according to the number of non human objects (complexity), the number of human figures (figure total), and the average size of the human figures (figure size average). Employing a factorial design, it was found that figure omissions (self; mother; father; sibling)

were unrelated to age, sex or problem group. Older children used significantly more distance to separate their figures. For distance between self figure and mother figure, there was an interaction effect amongst age, sex and problem group. The `normal' group drew their parents significantly further apart than either referred group. It was found that these `normal' children were more likely to place a barrier between themselves and either parent than the conduct problem group. The latter on the other hand, were more likely to place a barrier between the self and father figure than the phobic personality group.

The researchers state that there was no relationship between figure size average or figure size total and either age, sex or problem group. A relationship was found between complexity and problem group with the normal group scoring higher than either of the referred groups. The researchers concluded that the KFD technique could not be considered a valid instrument for screening or for differential assessment of children with mental health problems.

Elin and Nucho (1979) investigated the diagnostic utility of the KFD by proposing a scoring system based on the relationship between the self figure and the mother figure. This was in specific reference to obstacles depicted regarding the mother-child interaction. The relationship was operationalized through the following variables: action between figures; hands (whether hands were drawn); access (the number of barriers); compartments and quadrants that separated the mother and child; and affect (quality of the relationship between mother and child). Their assumption was that a child with a positive self concept according to a personal adjustment inventory, (refer to Elin and Nucho for reference), would portray this by expressing some form of interaction with a family member within the drawing.

Hands and compartmentalization failed to differentiate between the high and low self concept subjects. The correlation between scores of the Personal Adjustment Inventory and the total KFD scores for the 48 subjects was significant at the 0.1 level. Therefore, the researchers maintain that the KFD is valuable in identifying the barriers which exist in the child's social world. Furthermore, the KFD may be used to identify children at risk to facilitate appropriate intervention.

Cummings (1980) found that six variables differentiated between behaviour-disordered, learning-disabled and `regular' class children, namely: body parts, arm extentions; relative height of self figure; erasures; position safety; and activity of mother figure. Cummings maintains that these findings are generally congruent with the findings of Burns and Kaufman (1972).

Younger (1982) compared the KFDs of 90, acting out, shy-anxious and non-clinic males, with two other measures of of family dynamics (refer to Younger for specific references). He found that body parts, erasure, lining at the bottom of the page and underlining individual figures differentiated between the two groups, while compartmentalization failed to do so. He points out that although specific KFD signs and KFD overall measure of pathology were not related to other measures of family pathology, this finding may have been related to differences between the respective instruments, and uncertain validity of some KFD signs. Therefore Younger maintains the KFD should be used to generate clinical impressions and not for diagnosis of family problems.

Annunziata (1983) compared the KFDs of children from intact and single parent families. The KFDs were rated on accuracy of family portrayal, height of figures and distance between them, type of actions portrayed, frequency and type of

emotional indicators, and degree of sexual differentiation of figures. She found that children from single parent families manifested significantly more emotional indicators in their drawings. The two emotional indicators which most contributed to this difference were encapsulation and heavy shading (excessive use of shading), whereas erasures appeared as a normative indicator in both groups. Children from single parent families frequently depicted inaccurate family representations and mother, father and self figures were smaller than those drawn by controls, although this difference was only significant for the height of the father figure.

Jordan (1985) compared KFDs of sexually abused children and controls, ranging between the ages of 11 to 16 years. The scoring systems of Myers (1978) and O'Brien & Patton (1974) were used to rate each drawing. Three variables achieved statistical significance. These were: barriers between the self and the mother, and, mother and father activity.

1.7.2.1. Summary and conclusion

The previous section reviewed studies concerned with the discriminative ability of the KFD.

Those studies employing a predetermined scoring procedure also reported high interscorer reliability (Sayed & Leaverton, 1974; Sobel & Sobel, 1976; McGregor, 1978; Cummings, 1980; Jordan, 1984; Elin & Nucho, 1979). This may indicate that a predetermined scoring system is important when firstly, the KFD is to be used for discriminative purposes, and secondly, to maintain a standardized scoring procedure.

Certain investigators (Sayed & Leaverton, 1974; McGregor, 1978) did find sex differences, but it would seem that

overall, sex in these studies did not significantly affect results. Due to the small number of studies addressing the discriminative ability of the KFD, sex should not be excluded in future studies. Likewise, socioeconomic status and age did not seem to significantly affect results, although most researchers did attempt to control for both.

There was an indication that contrary to the findings of Burns and Kaufman (1972), so-called normals manifested more complexity than did the emotionally disturbed groups (McPhee & Wegner, 1976; McGregor, 1978). This finding does however require further verification. McPhee & Wegner did not include any other KFD drawing parameter categories in their study, and were thus unable to assess the interconnections between these broader categories.

With reference to the discriminative ability of the KFD per se, investigators did find that some variables differentiated between their groups of interest (Sayed & Leaverton, 1974; Cummings. 1980; Elin & Nucho, 1979 Younger, 1982; Annunziata, 1983; Jordan, 1985). Both Cummings and Elin & Nucho found that although their interest groups were different (sexual abuse group versus behaviour disordered and learning disabled groups), mother activity differentiated significantly between their groups. This implies that mother activity should be studied with other classified groups to further investigate this finding. Other variables achieving statistical significance according to these studies were, body parts, arm extentions, relative height of the self-figure, erasures (Annunziata maintains this variable was probably indicative of age), position safety, mother activity, father activity, encapsulation; heavy shading and barriers between the self and the mother; isolation of one individual; isolation of all individuals; persons or person turned away from the rest of the family;

and, all family members participating in different activities.

McPhee and Wegner found that edging and folding compartmentalization occured only once. Although only one study reported this finding, these Styles should be carefully examined in future studies.

Annunziata noted that children from single parent families drew father figures significantly smaller that those of controls. It is not known whether these children resided in single female parent homes or in single male parent homes. Thus, whether this variable expressed a realistic situation, or indicated the operation of a defence mechanism is impossible to ascertain. Sobel and Sobel did, however, find that their subjects tended to omit most or all of their family members. This, they tentatively concluded, may be indicative of some defence mechanism. McGregor found that his conduct problem group tended to place a barrier between the self and the father figure. Again, whether this was indicative of an existing situation is uncertain, but bears noting in future studies.

Sayed and Leaverton (1974), Levenberg (1975), Elin and Nucho (1979), and Younger (1982) all maintain that the KFD has potential to offer insight into family dynamics, although this conclusion requires further verification.

The studies thus far conducted do not establish that the KFD may be used to discriminate between groups, nor that the technique may not be used to do so. Certain variables do seem to discriminate between groups. These require further study with other groups to establish their discriminative utility.

1.7.3. Trend 2: Concurrent validity of the KFD

Sims (1974) compared responses on the KFD with responses from the Family Relations Indicator (as discussed in section 1.4.). He wished to assess the extent to which the KFD expressed family relations. Participants were between five and 15 years old, and emotionally disturbed. He devised a scoring procedure to eliminate methodological differences between the two techniques, by scoring each figure as positive, negative or neutral. He found that scores on the KFD and the FRI which indicated the quality of the participant's family relations were highly significant (He does not specify what these depictions were). Sibling relationships were not significant, which Sims attributed to the lack of same sex relationships on the FRI. Sims maintains that KFDs contribute meaningfully to investigations of problematic parent-child relations.

Younger (1982) compared responses of 90 acting-out, shy-anxious and non-clinic males on the KFD, The Family Environment Scale (FES) and The Family Members Test (FMT). (Younger does not supply reference details). He examined differences occuring in responses between the groups, and whether specific KFD signs and KFD overall measure of pathology would be related to other measures of family distress on the FES and FMT.

Younger's results do not provide concurrent validity for the KFD, although as already mentioned in section 1.6.2., his results may be questionable due to differences between the respective instruments, uncertain validity of the FMT and the questionable validity of some KFD signs. (Younger, 1982).

Steenhuisen (1987) investigated the Kinetic Family Drawings as a discriminant measure of family functioning of 10 to 11 year olds through use of the Family Assessment Device (Epstein, Baldwin & Bishop, 1983) and KFDs. He found that the KFD was a reliable discriminant measure of general family functioning. The most significant measure of family functioning was the KFD dimension, Characteristics. The highest positive correlation observed was that expressed by the combination of two FAD dimensions, Affective Involvement and Behaviour Control, with three KFD variables, Characteristics, Actions and Styles.

1.7.3.1. Summary and conclusion

Researchers examining the KFD have indicated that the KFD appears to be measuring family relations. The most significant findings occured when Steenhuisen (1987) used the Family Assessment Device. This implies that the KFD may be a discriminant measure of family functioning. This finding will, however, require further verification.

There also appears to be some concordance with the Family Relations Indicator (Sims, 1974) and the KFD. This again points to the possible utility of the KFD in measuring family interrelationships.

Younger's results do not invalidate the use of the KFD to measure family interrelationships, as there are methodological problems in his study, such as differences between the respective instruments, which implies that they may be measuring different constructs. Although Younger mentions that there are problems with the validity of some of the KFD parameters, unfortunately he does not supply details of these.

1.7.4. Trend 3: Test-retest reliability

Mostkoff and Lazarus (1983) devised a scoring system with which to examine the KFDs test-retest reliability. Their sample included 50 children (25 male and 25 female), ranging from seven to 10 years of age. The interval between administrations was two weeks. The 20 variables included in the scale were, number of people in the family, self depicted in the drawing, relative size of self in relation to other figures, one same symbol, styles (edging, folding compartmentalization, lining on the bottom, lining on the top, underlining individual members, evasions, one same action of an individual figure, one same action between two figures, elevated figures, erasures of whole figures, omission of family members, omission of body parts of self (head, trunk, arms, legs, neck, feet, hands, fingers, eyes, nose or mouth), barriers, same shortest figure, same tallest figure, self next to one same figure and drawings on back of page.

The researchers found that nine variables achieved significant reliability measures, namely self in picture, omission of body parts of other figures, arm extentions, rotated figures, elevated figures, evasions, omissions of body parts of self, barriers, and drawings on the back of the page.

Cummings (1980) investigated test-retest reliability of the KFD over a five week interval. He found that six variables achieved test-retest reliability, namely: body parts; arm extentions; relative height of self-figure; erasures; position safety; and activity of mother figure.

1.7.4.1. Summary and conclusion

Mostkoff and Lazarus found that nearly 50% of the variables they examined achieved test-retest reliability. There was however, a relatively small interval in test administrations (two weeks), and future research would have to be concerned with whether these same variables achieved test-retest reliability during longer test administration intervals. Cummings found that 30% of the variables he studied were reliable over a test administration period of five weeks, constituting a longer test-retest administration interval in the latter study. He suggested that some variables may be examining `state' characteristics, not enduring personality traits. Measures concerned with the self were found to be reliable in both studies (self in picture, relative height of self figure, omission of body parts of self), as were the parameters concerned with position of figures on the paper (position safety, elevated figures, rotated figures, drawing on the back of the page). These findings provide tentative conclusions regarding the reliability of these drawing parameters. The two studies did, however, use different scoring procedures which rated different drawing parameters. If both studies had examined the same variables, valuable information may have been obtained. At present, substantive conclusions cannot be drawn. In section 1.6.1., certain variables did discriminate between groups; some of these variables were found to be reliable in the preceding studies, namely: mother activity; omission of body parts of self and of other figures. Therefore future research should be concerned with these variables, as they seem to incorporate some `stable' property.

1.7.5. Trend 4: Integration of the KFD with the Animal KFD

Knoff and Prout (1985) investigated the integration of the Kinetic Family Drawing and the Animal Kinetic Family Drawing. Their discussion takes the form of a review of both instruments and a motivation for their integration. Therefore, as this study is not directly applicable to the present one, their review will not be examined.

1.7.6. Trend 5: The use of the KFD to assess parental judgement of parent-child relations

Schornstein and Derr (1978) routinely use KFDs in their assessment programme with child-abusing adults. They found that the KFDs enable assessment of individual and family psychodynamics and facilitate the development of a practical treatment programme. They found that subjects would often spontaneously interpret each others' drawings which would help break initial barriers in the assessment procedure. The drawings allowed the subjects to `reflect', which the usual interview procedures did not. They contend that the KFD technique entails a rapid data gathering mechanism, and drawings over time offer some form of comparison of progress. The researchers maintain that KFDs provide assessments of impulse control, interpersonal skills, reality testing, degree of organization, and judgement.

When interpreting KFDs, the researchers consider the following parameters to be of importance. Whether the present family, past nuclear family, or the complete family is drawn. They note interaction amongst depicted family members and whether the family is perceived of with barriers. They have found that impulsively drawn lines often indicate hostility or aggression. Stick figures are thought to indicate an inability to identify meaningfully with other people. If the child is drawn older than its chronological

age, the researchers maintain that the parents may expect more mature behaviour. Both behaviours may initiate abusive treatment due to their frustrating capacities for the abusing parent. The researchers contend that signs of tension in the family are often indicated by shading, objects which are falling over or an object hanging over a child.

Schornstein and Derr (1978) state that the structure of drawings may inform the rater whether the drawer is feeling secure. For example, unsteady ground lines may indicate that the the drawer feels uncertain about the situation. The researchers have also noted that the child is often drawn as a competitor by abusers. For example, when fathers draw sons as being more `masculine', aggressive or larger than themselves, child abuse has occured because the father feels neglected. They found that when responsibility for perpetuation of abuse was unclear, KFDs showed who the perpetrator was.

Therefore, Schornstein and Derr maintain that family drawings can be of value in both preventing further abuse and for working with families.

Howitt (1984) collected KFDs of mothers who had been classified as abusing, controlling and concerned. She was primarily interested in examining whether clinicians were more accurate than naive judges in interpretation. Although clinicians were marginally more successful, she found that training in interpretation did not improve accuracy and that judgements based on drawings plus social histories were more accurate than judgements based on drawings alone. The artistic quality of drawings did not influence judgements of the mother's group membership. Unfortunately, she did not discuss the implications of using adults as the drawers.

Palkes, Marsh and Talent (1986) utilized the KFD in a battery of tests to assess the effects of craniofacial surgery for deformity on parental attitudes. The evaluation protocol was administered prior to the surgery, postoperatively at two weeks, three months and one year, to 23 mothers and one father of deformed children.

Palkes et al. (1986) found that in the parents drawings of their families, the affected child could not be identified by five raters who were unfamiliar with the history of the families. At the two weeks postoperative assessment, only seven out of 24 parents drew their children with shaved heads, although shaved heads represented the actual physical condition of their children. Interaction was considered positive if the drawing reflected age appropriate behaviour, reasonable proximity between depicted figures and consistency in drawing quality. With the adults of the younger children, drawings indicated initial positive interaction, negative interaction at two weeks and positive interaction at three months. With the parents of the older children, this trend was somewhat reversed. Negative interactions were noted initially, with negative interactions at one year.

1.7.6.1. Summary and conclusion

Schornstein and Derr's (1978) study points to the usefulness of the KFD in assessing the extent of child abuse in families. The researchers note that drawings are non-verbal and clients may prefer them to `formal' tests. Both Schornstein & Derr and Palkes et al. (1986) indicate that KFDs may be used to assess family interaction trends over time, when adults are the drawers. Non compliance may be more critical with younger emotionally disturbed subjects, as indicated by Sobel & Sobel (1976) in section 1.6.1. It is unclear, however, why emotionally disturbed adults should

readily comply. The implication may be that the KFD must be used initially to establish rapport with adults and children to decrease non compliance rates.

As stated in section 1.7.5.1, the KFD can initiate important sources of information regarding family relationships. The evaluation of adult and children's drawings may be different in some respects, which was however not investigated by these researchers. In what manner this evaluation may differ is unclear, but future research should examine in what form these differences will occur.

1.7.7. Trend 6: The development of objective scoring methods

Although the studies in this section were conducted before the objective scoring procedure was proposed by Burns (1982), they are important as firstly, they point to the necessity of establishing objective scoring procedures for projective techniques and secondly, they provide valuable information regarding the discriminatory potential of the KFD.

O'Brien & Patton (1974) evaluated KFDs of 79 children (37 females and 42 males), of ages ranging from 10.2 years to 14.2 years. In addition, a questionnaire composed of the Coopersmith Self Esteem Inventory and the Children's Manifest Anxiety Scale was administered to each child (Refer to O'Brien and Patton for references). Teachers also completed the school behaviour checklist for each child, which was scored for passive-aggressive, prosocial and learning disabled behaviours. Three broad categories of Kinetic variables were constructed. These were interpersonal orientation, facing (major figures) and activity level (mother, father and self).

Using regression analysis, O'Brien & Patton found that activity level is the most important variable for predicting manifest anxiety. Therefore, the more activity the child attributes to the father, the more anxiety is present. Activity level and direction of self figure predicted general self concept. Therefore, the greater the activity of the father figure, the less the general self-concept score. The more the self-figure faces away from the other figures or into the drawing, the greater the self-concept score. The two variables which predict the child's social self-concept are the orientation of the father toward the self-figure and the direction the father figure is facing in relation to all the other figures in the drawings. The number of figures in the drawing was predictive of the child's school and academic self-concept. The number of siblings and relative size of the child and sibling figures as compared with the parental figures predicted aggressive behaviour. Sex and education level was predictive of hostile isolation, with females tending to depict more hostile isolation and more withdrawal behaviour. Multiple analysis of variance indicated that there was no significant sex or age effect.

Myers (1978) developed a 21 variable scale using actions and styles discussed by Burns and Kaufman (1972). This scale was then used to differentiate between emotionally disturbed and emotionally well adjusted children. (116 males from six to 14 years old).

The results indicated that physical proximity, barriers, description of action, body parts, rotations, bottom lining, top lining, encapsulation, edged placement, evasions and number of family members depicted differentiated between emotionally well adjusted and emotionally disturbed males. Force fields, arm extentions, and compartmentalization did not differentiate between the two groups. Myers points out that total KFD scores were insensitive to differences in

adjustment in the older groups. This implies that the scoring procedure may have limited usefulness in its present form.

Burns's (1982) work will be discussed fully in chapter 3.

1.7.7.1. Summary and conclusion

Similarities may be noted between these studies and those in section 1.6.4. Rotations or rotated figures, body parts, omission of body parts, and activity level, achieved significance in both trends. This may lead to tentative hypotheses concerning the importance of these drawing parameters. Further research will aid verification of this conclusion.

1.7.8. Trend 7: Using the KFD to develop hypotheses

Elin and Nucho (1979) examined the relationship between the self figure and the mother figure, predicting that self concept would be influenced by that interaction. As discussed in section 1.6.1., they found that certain variables did discriminate between the high and low self-concept scorers namely: action between figures; access and affect.

Holtz, Brannigan & Schofield (1980) investigated whether the depiction of the self and various family members on the KFD correlated with the degree of alientation or intimacy the individual felt. The mean age of the subjects was 20.4 years. The researchers found no significant correlations between distance between the self and other family figures in the drawings and ratings on interpersonal distance scales.

Brewer (1980) examined the relationships between depicted self figures (interaction levels between family members), school behaviour, achievement, age and sex. The interaction patterns scored were: complete isolation, noninteracting although in the company of others, interacting with all family members, and interacting with one or all siblings. Some 422 children were tested, ranging between six and 12 years. By means of Chi squares, Brewer found several significant associations. Shy children were more often depicted as noninteracting and isolated, or interacting with siblings. Average children were shown to interact with parents, whereas overly active children were more often drawn as noninteracting but in the company of others. Younger children tended to draw an interacting self, while older children tended to draw a noninteracting self which was often isolated. Achievement levels and sex were not found to be associated with interaction choices.

Layton (1984) examined the KFDs of 99 `problem' children and 119 well adjusted ones. Each drawing was scored for 157 signs, which the researcher had delineated as useful for analysis. Few signs or combinations of signs distinguished between the two groups of children (details of these signs are not available). Psychologists were, however, able to sort the drawings into their respective groups.

Candotti (1986) investigated the validity of the KFD by administering the KFD and a childrens anxiety scale (Refer to Candotti for specific reference). The subjects were divided into two groups on the basis of the their anxiety scores and the two groups were then compared for family themes such as tension and instability in family relationships, isolation and rejection of the self and indicators of a poor relationship with the father and mother. There were, however, no significant differences between the two groups in terms of the numbers of styles,

actions or characteristics of individual or depicted family themes.

1.7.8.1. Summary and conclusion

According to Brewer's study, there appears to be an age effect with regard to responses on the KFD, as older children tended to draw a noninteracting self, while younger children tended to draw an interacting self. Whether this finding is a representation of the emerging independence of a pre-adolescent (noninteracting), is impossible to verify with one study.

The relationship between the depicted mother figure and child appears to be a significant one, although the significance of distance between family members remains problematic. Anxiety scores do not appear to affect KFD depictions. As there is a paucity of work in these areas, the findings of the studies in this trend require further research.

1.7.9. Trend 8: The cross-cultural utility of the KFD

Ledesma (1979) examined the KFDs of well-adjusted Filipino adolescents. Subjects had been classified as belonging to the lower, middle and upper classes. One third of the protocols manifested a Style. Lining on the top was found to a significantly greater degree in the male protocols. Ledesma found that socioeconomic status influenced the size of major figures, types of actions depicted and the activity levels of the major figures. Upper class subjects consistently drew larger figures and depicted more passive types of activities that the lower classes. She states that further investigation needs to be concerned with other family members as well as with a broader age range.

1.7.9.1. Summary and conclusion

Following sections 1.6.4., and 1.6.6., activity level appears to be an important drawing parameter which has appeared in a cross cultural study, with `upper' class subjects depicting more passive types of activity than the `lower' classes. The interpretation of this drawing parameter, however remains varied and confused.

The preceding discussions have examined studies which have utilized the KFD. Before proceeding, however, it would be appropriate at this juncture to introduce a critical discussion regarding the KFD.

1.8. A critique of the KFD

1.8.1. Introduction

There have been many criticisms levelled at the KFD. This section will examine these criticisms in the light of conclusions drawn in the previous section on trends of research and the section on projective techniques. Thereafter, conclusions and directions for future research will be offered.

1.8.2. Interpretation of the KFD

Although a comprehensive scoring format has been proposed by Burns (1982) and found to be reliable in subsequent research (Steenhuisen, 1987), interpretation of the KFD remains problematic.

Gerston (1978) and Harris (1978) write that the interpretation or diagnosis of a drawing seems to be based more on the information and knowledge previously gathered about the drawer than on the drawing itself. Furthermore no

empirical validation is given for any individual drawing parameter. Gerston states that there are no indications as to the relative importance of the various drawing properties. Therefore, it is uncertain whether different parameters have opposing or contradictory meanings.

1.8.3. Scoring

Originally, Burns and Kaufman (1972) relied on less `objective' methods by which to score KFDs. Burns's (1982) proposal provides a more thorough `objective' treatment of drawing parameters. Further work on its reliability and validity should however be undertaken.

1.8.4. Illusory validation

Anastasi (1976) and Gerston (1978) have indicated that where systematic errors in observation occur, interpretation under these circumstances can lead to spurious data regarding the `diagnosis' of the drawer. This is exacerbated when there exists no objective scoring format, but may also occur when the test is not measuring what it purports to measure. As studies examining the discriminatory potential of the KFD have been inconclusive to date, it appears neccessary to establish what criterion the KFD is assessing.

1.9. Conclusions and directions for research

It is clear that the reliability of the scoring format proposed by Burns (1982) requires further verification as a reliable scale since this is a necessary cornerstone to enable the establishment of the KFD as a useful instrument.

A review of the KFD studies has revealed that although constituting the major trend of study, the discriminatory ability of the KFD remains problematic.

Where the family interrelationships were investigated however, significant findings occured (Sayed & Leaverton, 1974; Levenberg, 1975; Elin & Nucho, 1979; Younger, 1982; Candotti, 1986; Steenhuisen, 1987). Furthermore as a result of their studies, Levenberg, Candotti and Steenhuisen suggest that family functioning may be the underlying criterion which the KFD is measuring.

Therefore, this would seem to indicate that an investigation into the KFDs ability to depict family functioning would constitute a necessary study.

Although the KFD has been used with adults, it is uncertain what effects age (or different generations) may have on responses. Therefore, future studies should examine adult KFD protocols.

Hence, in order to assess whether family functioning is indicated by the KFD, it is necessary to examine definitions of the family and ways in which to utilize KFD protocols to meaningfully assess whether the KFD is measuring family functioning. Therefore, the following chapter will examine definitions of the family, family therapy and assessment models.

CHAPTER TWO
Family Assessment

2.1. Introduction

Recent trends from 1960 to 1980 toward family therapy, have also introduced varying methods of family assessment (Gurman & Kniskern, 1978). Bell (1976) maintains that family therapy is based on a selection of techniques, goals and ideas. He states that

> "There is no theoretical system for exclusive use in interpreting the experiences within family therapy... Family therapy is based on a selection of techniques, goals, and ideas." (p.130)

Therefore, due to the selectivity of any theory of Family Therapy, the assertions of prescriptions for therapy methods, goals, interpretation and evaluations must remain on the level of personal factors behind a therapist's selection (Bell, 1976).

This implies that a researcher must clearly explicate the theoretical basis underlying any assessment instrument used. For this reason, the following sections will be concerned with definitions of the family unit and current trends in family therapy. An examination of System's theory will faciltate discussion regarding the underlying assumptions of one family assessment technique, the McMaster Family Assessment Model (Epstein & Bishop, 1981). The discussion will then include the Family Assessment Device (FAD), which is derived from the McMaster model. This section will be concluded with a discussion regarding the directions for research in families and concluding remarks.

2.2. Definition of the family unit

Just as Family Therapy appears to comprise many theories, there is no one universal definition of `the family'. Theorists however, often attempt to understand the family unit by emphasizing its processes and structure. Therefore according to Kramer (1980 p.44) a family consists of

> "A group of people with a past history, a present reality, and a future expectation of interconnected transactional relationships. Members are often bound together by heredity, by legal marital ties, by adoption, or by a common living arrangement at some point in their lives."

This implies that the boundaries of a family unit are not immutable and therefore the family cannot be considered a reified entity, but may constitute a continually changing structure.

Although the boundaries of the family unit are not fixed, Vetere & Gale (1987) and Parsons & Bales (1955) point out that the process of socialization i.e. of acquiring rules, roles and norms of society is usually left to the family, to introduce to each member. This implies that a large proportion of an individual's time is spent in interaction with family members. Thus, the `family' constitutes an important unit for study.

Although, as already mentioned, a universal definition of the family is problematic, Gutknecht & Butler (1985) state that within any family, there are always a variety of positions or statuses, which may be found across families. Each position has a role or roles assigned to it. For example, in the position of wife there may be a variety of roles such as mother, cook, maid, housekeeper, sexual

partner, and so on. They contend that it is important to dichotomize role `expectation' and role `behaviour' as these may be substantially different. Role expectations can guide behaviour, but role behaviour may contradict expectations, and create stresses within the family unit.

Gutknecht & Butler (1985) maintain that positions and roles require interactions or transactions with other persons in the family to occur. Interactions may result in cooperation or in conflict, the latter often resulting through a `lack of fit' between expectations and behaviour.

Family members define themselves and their places in the family by their role interactions. Gutknecht & Butler state that it is possible to examine family functioning by noting these interactions. They maintain that members' actions and transactions are reliable indications of how members accomodate to one another and indicate the degree of assimilation of family members into the family unit.

It would be useful to examine how family therapists take these processes into account by examining current concepts and practices in family therapy.

2.3. Current concepts and practices in family therapy

As indicated in section 2.1., family therapy has become an accepted method of treatment in recent years (Gurman & Kniskern, 1978). Following Bell's (1976) conclusion, Walrond-Skinner (1979) contends that family therapy embraces a variety of methods, each of these including an array of techniques. The family therapist is, however, orientated towards the interpersonal processes and behaviours which occur between the members of a natural psycho-social system, namely the family.

There have been various attempts at differentiating between schools of family therapy, such as Beels & Ferber's (1969) classification of therapeutic style. More recently, Guerin (1976) has offered a descriptive study of the major groupings in the field. These have been delineated into structural (Minuchin, Aponte, Montalvo); strategic and/or communicational (Satir, Haley, Weakland, Watzlawick); dynamic (Ackerman, Bloch, Wynne, Framo, Boszormenyi-Nagy); experential (Kempler, Duhl) and differentiation purist (Bowen, Fogerty) (Walrond-Skinner, 1979).

In order to provide a broad framework for family therapies, Chasin & Grunebaum (1980) have delineated three major diagnostic perspectives namely: the historic perspective; the interactional perspective and the experiential perspective. It is useful to examine these to locate the present study within them. This section provides a framework for the present study, but does not constitute an exhaustive review.

Chasin & Grunebaum (1980) state that the historic perspective, following Freud and the post Freudian pioneers of the family movement such as Adolf Meyer, Karen Horney and Harry Sullivan (Helmersen, 1983), emphasized issues such as invisible loyalties, object choices and unresolved problems in the family. The interactional perspective is concerned with family functioning observable in the present, where such concepts as dysfunctional communication, double binding sequences, triangular substructures and elements of family structure are of importance. Early proponents of these concepts are Gregory Bateson, Theodore Lidz and Lyman Wynne (Helmersen, 1983). Concepts associated with the experiential perspective relate to the idiomatic quality of an individual's experience in a family, such as self-image, inner experence and differentiation (the process of

individuation). In practice, however, these perspectives are not mutually exclusive (Helmersen, 1983).

There is debate regarding the utility of these perspectives within Family Therapy. Westley & Epstein (1969) maintain that family functioning is much more related to Transactional and Systemic properties of the family system, than to Intrapsychic characteristics of individual family members. Will & Wrate (1985) maintain, however, that the lack of recognition of psychoanalytic concepts in family assessment leads to less comprehensive understanding of the family functioning.

In addition to the major schools and perspectives of Family Therapy, System's Theory has had an undeniable impact upon notions of the family and concepts within family therapy. As Helmersen (1983 p.82) states

> "The increasing prominence of the open (or semi-closed) system model of the family is, we believe one of the most favourable trends in family interaction research today."

Similarly, Guerin (1976 p.21) has commented that

> "The System's approach has moved from the periphery to the center of the field."

Thus, System's Theory has provided a framework within which many family therapies have evolved. It is useful, therefore, to examine the central concepts within System's theory to facilitate an understanding of the family as a system and of the underlying assumptions of the McMaster Model of Family Assessment, which will be outlined in succeeding sections.

2.4. System's Theory

System's Theory has begun to attract a following amongst family therapists. An indication of this trend is Vetere (1987 p.18) statement that it is

> "Fashionable for social scientists to describe family structure and behaviour in System's terms".

General System Theory (von Bertalanffy, 1956) is the cornerstone from which current concepts have developed. It seeks to explain a system or a `whole' through an examination of the interdependence of its parts. Vetere (1987) states that the theory attempts to classify systems according to the organization of its structure and to describe typical patterns of behaviour for different systems. These interrelated parts are often referred to as subsystems (Vetere, 1987).

Vetere states that the System's research is primarily concerned with hierarchies of levels of organization. Each level of organization within the hierarchy is more complex than the one below and is characterized by emergent properties that do not exist at lower levels and are not reducible to prior events.

The concept of openness, as referred to by Helmersen, (1983) is of central importance in General System Theory. If a system is `open' an exchange of materials and information with its environment is facilitated. This property enables a hierarchy of systems to exist. An example of a hierarchy may be illustrated by an individual who is a member of a family, which in turn is part of society and so on (Vetere, 1987).

2.4.1. System's theory and the family

Gutknecht & Butler (1985) state that a family system is a complex, interconnected network of transactional patterns between role units and a specific environmental context. They maintain that family role boundaries define what `belongs' and what is alien. Furthermore, the role boundaries are the regulators of the flow of information and activities between the family unit and environment.

Kantor & Lehr (1975 p.116) define open, healthy family systems using concepts such as family spaces, rules and alliances. Furthermore, open family systems

> "...maximise the potential for a joint negotiation of distance."

These rules are, however, modified and developed over time and through trial and error (Andolfi, 1979).

This implies that clear boundaries enable optimal patterns of communication. Thus, family members are clear as to the rules within the family unit. Minuchin (1974 p.54) argues that

> "Boundaries must be defined well enough to allow subsystem members to carry out their functions without due interference."

If rules are modifiable, this implies that there must a process through which this can occur. Vetere (1987) contends that changes can occur through feedback processes.

One such feedback process identified by Vetere (1987) and Gutknecht & Butler (1985) is cybernetic control. This is feedback which is based upon family rules rather than

individual decisions. Circular feedback is where family members react without higher goals. Reorientation involves a fundamental change of the family boundary system.

It is important to note that feedback may be positive or negative (Vetere, 1986). In negative feedback, the family system is not induced to dynamic change, and stable interaction patterns emerge which can impede the change process, should this of neccessity occur. Positive feedback patterns on the other hand, ensure that dynamic modifications within the family system are reinforced. This has important implications when dysfunctional family systems are examined, as rigid transactional rules can sometimes lead a family into resisting change or pressures brought about by the environment, thereby inducing problems within the family system.

For example, these families can become enmeshed (Minuchin, 1978), where they are too involved with each other or disengaged i.e. where the family system is very loosely involved.

Adaptive family responses by each family member are necessary, as each experiences idiosyncratic problems or conflicts (Gutknecht & Butler, 1985). These may include "new offspring, acquisition of in-laws, separation of chidren or spouses by school, divorce or death" (Boss, 1980 p.20).

Gutknecht & Butler maintain that the System's model works effectively with problem families as it rejects strictly micro frameworks for understanding human behaviour. The micro approach emphasizes the individual or intrapsychic problems (Psychodynamic view). The behavioural approaches focus on the presenting problem but tend not to consider the underlying causes (Vetere & Gale, 1987).

A System's approach thus attempts to incorporate the environmental context within which the individual usually operates.

Vetere (1987) states that the family researcher using a General System theory framework often lacks clear conceptual definitions, which facilitate operational definitions. At present, there seem to be problems in linking abstract concepts of General System theory and the reality of everyday family interaction. Yet as Vetere has pointed out, General System Theory emphasizes the roles of each family member in the genesis and maintenance of family transactions, which is believed to be the basis of family therapy.

> "The task now for family researchers is to construct a theoretical language adequate to the task of describing and explaining interaction in families. (p.32)

2.4.1.1. Summary and conclusion

The preceding subsections have examined definitions of the family and current practices in family therapy. It was concluded that family therapy is comprised of many theories and perspectives. Further, System's theory appears to underly many of the current concepts and practices in family therapy. Healthy families tend to utilize clear boundaries and rules to facilitate functioning. According to System's theory, healthy families are also able to change these rules and boundaries according to the demands of the environment. Therefore, the underlying characteristic of unhealthy families is that they are less likely to develop change strategies, even when it may be neccessary to do so.

The following section will review particular Family Assessment models.

2.4.2. Family assessment models

2.4.2.1. Introduction

Following Vetere (1987), Wikinson's (1987) review of family assessment indicates that there is a clear need for assessment methods which utilise widely recognized and validated concepts and which refer to these in everyday language. He maintains that the methods should be broad enough to assess a wide variety of complex problems yet, also be comprehensible to novices.

Wilkinson views the assessment and therapy process as a problem-solving one.

> "Assessment...process of understanding problems in order to make an intervention which is designed to help solve them." (p.369)

The assessment process is distinct from the diagnostic one which refers more to the final decision-making aspects of assessment.

Wilkinson states that it is important to understand both the subjective and objective views of a family's problems, which avoids stigmatizing individuals or families.

Family assessment models which attempt to fulfill these requirements will be discussed in the following section.

2.4.2.2. Family assessment models

Models of family systems which integrate System's theory and attempt to combine the conceptual, clinical and empirical domains (Candotti, 1986) include the Circumplex Model of Marital and Family Systems (Olson, Russell & Sprenkle, 1980), the Beavers System Model (Beavers & Voeller, 1983) and the McMaster Model of Family Therapy (Epstein, Bishop & Levin, 1978).

The Circumplex Model of Family and Marital Family Systems contain three dimensions, namely adaptability, cohesion and communication. It is hypothesized that families functioning at extreme levels of these dimensions are functioning poorly. Therefore, too much change (which can lead to chaos), or too little change (which can lead to system rigidity) are seen as dysfunctional for family systems. It is the balance between these two extremes which is hypothesized as the most functional to marital and family system development. Beavers and Voeller (1983) maintain that this model does not conform to the clincal reality of family development, that it contains logical defects and fails to relate family systems to human development theory. The Beavers' System model, however emphasizes the structure, flexibility and competence of a family on one dimension and family style on the other. Nine family types are constructed from the two-dimensional grid.

The McMaster Model of Family Functioning (Epstein & Bishop, 1981), emphasizes the dimensions of Problem Solving, Roles, Communication, Affective Responsiveness, Affective Involvement and Behaviour Control. These dimensions are each measured on several continua and are clearly defined, thus facilitating objective scoring. In contrast, The Beavers model relates adaptability to competence and places it on a continuum i.e. the more the better (Candotti, 1986). The

Circumplex model, however, conceptualizes adapatability as change and hypothesizes a curvilinear relationship with too much or too little adaptability as problematic. As Candotti (1986) has indicated, the McMaster approach appears to have the most clearly and operationally defined variables which is, of necessity, foremost in assessment methods (Wilkinson, 1987), and fulfills the requirement indicated by Vetere (1987) in section 2.4.1., whereby the theoretical language is adequate to explain some major dimensions of family functioning.

Therefore, the following section will contain a detailed discussion regarding the McMaster model, enabling an understanding of its use in research.

2.5. The McMaster model of Family Assessment

Epstein & Bishop (1981) note that although family therapy has become a more acceptable form of treatment, approaches to working with family problems are often limited to clinical judgement and intuition. They contend that a clinician requires a model which forms the conceptual basis from which to work and which guides their treatment approaches. They thus developed the McMaster model of Family Functioning (Epstein & Bishop, 1981).

The model is based on the System's approach whose underlying assumptions are:

1. The parts of the family are interrelated.
2. One part of the family cannot be understood in isolation from the rest of the system.
3. Family functioning cannot be fully understood by simply understanding each of the parts.
4. A family's structure and organisation are important factors determining the behaviours of family members.

5. Transactional patterns of the family system shape the behaviour of family members.

Therefore this model may be understood as fulfilling the requirement of the interactional perspective as outlined by Chasin & Grunebaum (1985) (Refer section 2.3.).

The model is concerned with both macro and micro stages. The macro stages of therapy such as assessment, contracting, treatment and closure each consist of substages. `Micromoves' include the various strategies and interventions therapists use when leading a family through each of the macro stages.

The focus of therapy is not only on the presenting problem(s) but also on those identified during the assessment stage. (Epstein & Bishop, 1981). The model stresses the active cooperation of all family members throughout each macro stage where the therapist, ideally, acts as a facilitator (Epstein & Bishop, 1981).

As the present study is concerned with the initial assessment stage, the discussion will focus on this macro stage, more specifically on the data-gathering stage.

The therapist begins the therpeutic process with the entire family, which may include significant extended family and outsiders.

During the data-gathering stage, information is collected regarding the presenting problem(s), overall family functioning and may involve additional investigations of other problems if required.

The family is asked to describe the problem(s) which brought them to treatment, following which family members are then

assessed on six dimensions of Problem Solving, Communication, Roles, Affective Responsiveness, Affective Involvement and Behaviour Control. This assessment process focuses upon detailing both the strengths and difficulties in each dimension to enable an investigation of overall family functioning. The therapist is then more adequately equipped to deal with the family. Assessment is thus based on family reports and the therapist's clarification or confrontation of contradictions which occur through observation of behaviour during the session.

Each dimension is clearly explicated by Epstein & Bishop (1981). To facilitate a comprehensive understanding of the concepts within the McMaster model, each dimension will be detailed further. The problem solving dimension is defined by the researchers as

> "The family's ability to solve problems and remain a functioning unit" (p.455)

Problems are divided into instrumental and affective types. Instrumental problems are those concerned with daily life such as money management for example. Affective problems are related to emotional situations. These subdivisions, however, are not mutually exclusive. Epstein and Bishop (1981) point out that instrumental problems are almost always coupled with problems in the affective sphere.

The communication dimension is defined as

> "...how information is exchanged within a family." (p.458)

The emphasis here is on verbal exchange. The researchers do submit that non-verbal aspects of family communication are important but maintain that they have to be excluded because of their potential for misinterpretation. Communication is

also subdivided into instrumental and affective areas. In addition, two other aspects of communication are also assessed, such as whether the communication is clear or masked, direct or indirect. Epstein & Bishop (1981) state that with these distinctions four styles of communication patterns can be observed. The first is clear and direct communication. The second style is clear and indirect; although the message is clear, for whom it is intended is not. The third style is masked and direct communication. The content is unclear, although for whom it is intended is clear. The fourth style is masked and indirect communication. Epstein & Bishop postulate that the more masked and indirect the overall family communication patterns are, the more poorly the family will interact; the more clear and direct the communication, the more effectively it should function.

Roles are defined as

> "recurrent patterns of behaviour by which individuals fulfill family functions." (p.460)

Roles are divided into instrumental and affective areas, which are further subdivided into necessary family functions and other family functions. Role allocation to family members and role accountability, i.e. the monitoring of tasks, are also considered. Epstein & Bishop predict that within healthier families these family functions are fulfilled to a greater degree in appropriate ways.

Affective responsiveness is defined as

> "The ability of the family to respond to a range of stimuli with the appropriate quality and quantity of feelings." (p.463)

This dimension is divided into welfare feelings and emergency feelings. Welfare feelings refer to responses such as love, tenderness and joy, while emergency feelings are responses such as fear, anger and depression. Epstein & Bishop postulate that the more effective the family functions, the more comprehensive the range of members' responses are.

Affective involvement is defined as

> "...the degree to which the family as a whole shows interest in and values the activities and interests of individual family members." (p.464)

The degree of involvement is exemplified by the following range.

1. Absence of involvement implies that family members show no interest or investment in each other.
2. Involvement devoid of feelings implies some interest but lacks real involvement.
3. Narcissistic involvement occurs when investment in others is primarily egocentric.
4. Empathic involvement refers to an appropriate emotional investment in other family members.
5. Overinvolvement implies an overprotective investment in others.
6. Symbiotic involvement implies that the boundaries between family members have become blurred as involvement is too intense.

Epstein and Bishop (1981) view empathic involvement as the most effective form of affective involvement and lack of involvement or symbiotic the least effective.

Behaviour control is defined as

> "...the pattern a family adopts for handling behaviour." (p.466)

Epstein & Bishop have outlined three major areas where behaviour control is considered namely physically dangerous situations, expressing physical and/or psychological needs and interpersonal socialising behaviour with family members and outsiders. There are four styles of behaviour control namely rigid behaviour control, flexible behaviour control, laissez-faire behaviour control and chaotic behaviour control. Epstein & Bishop predict that flexible behaviour control is the most effective style, with chaotic behaviour control as the most pathological style.

The following section will briefly examine the methods for obtaining information within a clinical setting, which will provide an introduction to the McMaster Family Assessment Device (FAD).

2.6. Methods for obtaining information

The interview is often used to obtain a descriptive form of assessment. Wilkinson (1987) states that by 1966, Watzlawick had developed a semi-structured interview for families. This facilitated definitions and helped to develop standards for comparison.

From the mid 1970s, interviews began including observer ratings, and assessment included a multi-axial or dimensional system, for example Rutter, Shaffer & Shephard's (1975) system (Wilkinson, 1987).

The self-report questionnaire is another information-gathering tool which developed partly to reduce repetitive

tasks and to introduce more rigorous measurement (Wilkinson, 1987). Hersen, Michelson & Bellack (1984) point out that the utility of self-report techniques have been the subject of controversy. They believe, however, that self-reports can be valid and reliable instruments if the subject is given careful instructions and is reporting on immediately occuring events. Much less confidence should be placed in reports which rely on long-term memory.

The McMaster Family Assessment Device (FAD) is a self report questionnaire designed to evaluate families according to the McMaster Model of Family Functioning as discussed in the previous section. Following the recommendations of Hersen et al., the subject is provided with careful instructions and is reporting on recently occuring events. Epstein, Baldwin & Bishop (1983) state that as the FAD was designed to be a screening instrument only, its use does not preclude collecting other information.

This instrument identifies problem areas, which enables further investigation by the clinician. The instrument offers a comprehensible and relatively quick method of obtaining the relevant information. In assessing each family member's perceptions of the family unit, the therapist has entry into these different perceptions, which may be quite different to those of the observor's. Epstein et al. (1983) maintain that these multi-responses can provide meaningful information for the clinician.

The FAD consists of seven scales. Six of these assess the dimensions previously described in the section on the McMaster model. The seventh scale is a general functioning scale, assessing the overall health or pathology of the family. The questionnaire may be completed by individuals over the age of 12.

The FAD was developed through utilizing responses of 503 individuals. The researchers provide reliability estimates for the scales which range from .74 to .92. Correlation amongst the seven scales was calculated from .4 to .6, suggesting a high degree of intercorrelation amongst the scales. Partial correlations between the scales, however, approach zero when general functioning is held constant (Esptein et al., 1983).

Hersen et al (1984), state that self-report instruments should be internally consistent, stable and valid.

The researchers present evidence which suggests that the FAD has validity. They report that in a retirement adjustment study, the FAD accounted for 28% of the variance on the Lock Wallace Marital Satisfaction scale. (Epstein, Baldwin & Bishop, 1983).

Other studies, such as that of Miller, Bishop, Epstein & Keitner (1985) report that the FAD has adequate reliability and test-retest reliability, low correlations with social desirability, moderate correlations with other self report measures of family functioning and differentiates significantly between clinically rated healthy and unhealthy families.

Hence, the FAD appears to fulfill several principles for effective assessment techniques as outlined by Wilkinson (1987). It is based on a coherent theory of family functioning, adopting a broadly based System's theory and it utilizes a language which is widely recognized. It also incorporates a structured interview format in the form of a self-report inventory, and identifies family strengths and weaknesses. In addition, it makes use of a dimensional rather than a categorical analysis, and utilizes operational definitions to clarify concepts while incorporating

transactional perspectives on the whole family. Vetere & Gale (1987) state that a good theory should simply help to identify what variables are worth examining and how such variables should be measured and evaluated. Therefore the McMaster model and its derivative, the FAD, appears to be meaningful, reliable and valid instruments with which to investigate family functioning.

Furthermore, the FAD is not only able to assess whether a family is functioning poorly, but also whether the system is well-functioning (according to the dimensions of functioning that the FAD measures). According to the FAD, a family would be considered well-functioning if

1. they are able to solve problems and remain a functioning unit.
2. communication is clear and direct.
3. roles are clear for each family member and are fulfilled adequately.
4. the individuals within a family can respond to a range of stimuli with appropriate quality and quantity of affect.
5. the individuals within a family show interest in and value for the activities of the other members and so demonstrate empathic involvement.
6. the family is flexible in dealing with daily events.

Therefore, a family considered relatively well-functioning should demonstrate some if not all of the above. These trends will assume importance when the findings of the present study are discussed.

2.7. Integration of System's based models and Psychoanalytic theory

2.7.1. Introduction

This section will introduce the rationale for the present study, by examining present trends towards integrating Psychoanalytic and System's based models and through an investigation of similar precedents in other studies.

Friedman (1980) states that Psychoanalysis and family System's theory have been seen as antagonistic, to the detriment of each. He believes, they are ultimately complementary. Psychoanalysis can lead to a detailed understanding of meanings, providing personal psycho-historical depth. System's work emphasizes interpersonal transactions, sometimes at the expense of psychological depth. An integrated theory should, therefore, provide more meaningful clinical fomulations. Slipp (1980) upholds this view and advocates that Psychoanalytic researchers wishing to incorporate System's concepts should begin the assessment procedure with an examination of the "Symbiotic Survival Patterns" (P.120), which acknowledges the intrapsychic symbiotic fixation during childhood development and then describes how family interaction contributes to and continues to reinforce this fixation.

Similarly, Will & Wrate (1985) have integrated the McMaster Model of Family Assessement, Psychoanalytic family therapy and Structural family therapy. They believe such an integration to be crucial to the future development of Family Therapy. They state that there are intrinsic problems with the McMaster Model, such that the distinctions between the dimensions are not clear cut, which can be problematic when explaining a family's functioning. With the integration of concepts of Structural family therapy and Psychoanalytic

family therapy a more comprehensive formulation of family functioning may then take place. Furthermore, Will & Wrate maintain that Epstein et al. (1983) focus on experiential task-orientated therapy, without acknowledging the contribution of Psychoanalytic concepts to their clinical formulations.

This implies that the combination of the KFD, which is recommended by Burns & Kaufman (1972) to be interpreted according to Psychoanalytic concepts, and the FAD in one study, may provide more meaningful information regarding family functioning.

Due to its potential for misinterpretation (Andolfi, 1979), non-verbal communication in assessment is not concentrated upon, although it is recognized as an important unit for study. Furthermore, verbal communication has been found to be more accessible to the upper classes (Andolfi, 1976). This suggests that family drawings, which are non-verbal, may not screen lower class families from study. Andolfi contends that an understanding of the family group's non-verbal communication enables the therapist to enter into the system i.e. to learn the implicit rules of the group and to evaluate the degree of congruence between its verbal and non-verbal messages. This implies that the use of the KFD with the FAD may provide additional information regarding non-verbal communication amongst family members.

In some cases, the way family members situate themselves in space follows specific family rules (Andolfi, 1976). For example, the spatial situation of the identified patient often differs from the others. It follows that if this constellation is depicted in a family drawing, information regarding family rules may be accessible. Andolfi points out that spatial positions occupied by family members are always influenced by the presence of the therapist. If, however, the KFD is used initially, the influence of the therapist should be lessened, since only family members are portrayed and the drawings are completed at the beginning of the therapeutic relationship.

The use of the KFD in assessment also offsets the problems of the role of participant-observer which the therapist undertakes, in that aspects of transactional patterns of entire families are difficult to note even for the experenced clinician (Anastasi, 1976). Vetere & Gale (1987) have pointed out that by comparing the experience or perceptions of more than one observor in a home, the reliability of the participant method may be tested. It follows that by collecting perceptions of all family members in drawings and FADs, researchers may note inconsistencies in members'reporting if they so exist. Epstein & Bishop (1981) uphold this view, stating that when seeing the family for the first time, all family members should be present. Furthermore, in initial data-gathering the therapist confirms impressions by observation of behaviour (Epstein & Bishop, 1981). This implies that the KFD could act as an adjunct to this process, and therefore the use of the KFD and FAD in the present study should provide meaningful information.

Fosson & Quan (1986) utilized illustrations of family organizational styles and requested families to select an appropriate style by agreement. Fifty percent of families

studied chose a pattern concordant with a family therapist's formulation of the family's organizational style. The researchers believe that the development of this technique could present a useful clinical tool. Their findings also imply that generations within families may perceive interaction styles similarly, as they were able to collectively recognize them.

Family structure has been investigated by Karastergiou-Katsika & Watson (1985) who compared repertory grids and clinical assessment methods. Repertory grids provide graphical representations of family structure. They found that repertory grid graphs revealed patterns that could be interpreted as a representation of structural organization. These findings tended to agree with investigators who used other clinical methods to assess the families. The researchers maintain that graphical representations of family structure might aid the devlopment of a typology of families and might constitute a process measure of progress in family therapy.

A similar study was conducted by Gale & Barker (1987), who utilized the repertory grid technique approach to analyze family members' perceptions of self and others. Questions used were based on constructs derived from the distance regulation theory (Refer Gale and Barker for specific references). Of particular importance for the present study, was the finding that the family researcher could explore the organization of the constructs for each family member and show how each member is construed both by others and by themselves.

The studies mentioned in this subsection indicate that the utilization of projective techniques, repertory grids in conjunction with some clinical rating, may provide important information for the researcher and/or clinician.

Shearn & Russell (1969) extended the Family Drawing Test by obtaining drawings by one or both parents as well as a child. They found that most children and adults drew frank representations of their families and that when drawings were interpreted, the emphasis was usually upon the interrelationship of the figures.

This implies that the KFD may, if used in conjunction with both adults and children, provide valuable information regarding the interrelationships within the family unit.

2.8. Summary and conclusion

The preceding subsections have examined the family assessment models of Olson, Russell & Sprenkle (1980), Beavers & Voeller (1983), and Epstein, Bishop & Levin (1978). It was concluded that the McMaster Model has the most clearly defined categories and incorporates System's concepts in its operational definitions. The model was then detailed according to the six dimensions with which it is concerned. Various methods for obtaining information in therapy were briefly examined, as well as some criticisms levelled at self report questionnaires. Thereafter, the FAD was examined in detail, as were studies which have incorporated the FAD. The integration of Psychoanalytic concepts and the McMaster Model was analyzed, with details regarding precedents set in particular studies.

Although the KFD appears to be examining interactions between family members, previous research has been concerned with individual functioning. Those studies which investigated family perspectives, such as those outlined in Chapter 1 section 1.8., found some significant results. Therefore, it seems necessary to investigate whether the KFD is a measure of family functioning. Furthermore, as there

appear to be epistemological links between the KFD and the FAD, it would be useful to combine these instruments in one study to establish whether KFDs are indices of family functioning. The FAD is a reliable and valid measure of family functioning. As it takes from between 15 to 20 minutes to complete, it is also relatively quick, which facilitates the research process.

To gain insight into the family transactions, the entire family should be required to participate. Schornstein & Derr (1978) utilised this approach, although their study was clinically, not experimentally based. Shearn & Russell's (1969) study indicates that this may provide important information regarding family interrelationships.

The following chapter will examine the research design of the present study.

CHAPTER THREE
Research Design

3.1. Introduction

In the previous two chapters, literature pertaining to the Kinetic Family Drawing and the McMaster Family Assessment Device has been reviewed. The present chapter will elucidate the research design and methodology of this study. In light of the previous chapters, the aims and objectives of the study are posed and research hypotheses formulated. The manner in which the sample was selected is explained and the design of the study discussed, following which, the procedure of the present research is outlined. The analysis of results is considered in the following two chapters.

3.2. Pilot study

In establishing the research design of any study, a pilot study may be useful to examine potential areas of difficulty which may then be incorporated into the study proper (Anastasi, 1986). Therefore, a pilot study was undertaken to assess potential areas of difficulty. Furthermore, as few previous KFD studies had used adults, it became neccessary to examine whether drawings could be used effectively with adults. Administration procedures were also examined, as it is known that order of administration of tests can influence final results. (Anastasi, 1976). Thus, it was important to clarify which test should be administered first. Three families agreed to participate. These were families who were known to the researcher and who fulfilled requirements for participation (Refer to Notes 1 to 10 at the end of this chapter for complete details). Each family member completed the FAD and KFD.

The results of the pilot study indicated that family members were perceiving the family functioning modes similarly, in that scores amongst family members did not differ significantly. Also, there were no significant correlations between age of drawer and KFD category. This lent credence to the hypothesis that the KFD could be used as a Projective technique with both adults and children.

With reference to order of administration, it became obvious that it was imperative the participants first draw the KFD before the FAD was administered, as subjects themselves felt that their drawings were biased due to reading the statements contained within the FAD. Thus, it was decided that the order of administration should be the KFD, followed by the FAD and finally the collection of relevant demographic data.

It was noted that participants tended to depict themselves and significant others in work-related or recreational activities. Since it is unknown as to what extent this trend may occur, it was concluded that for the purposes of the present study, information regarding these activities should be collected for comparison.

3.3. Aims and objectives of the present study

In this subsection, the aims and objectives of the present study will be derived through an examination of previous research. Thereafter, specific research questions will be posed, and the statistical techniques to be utilized will be presented.

A review of the KFD literature to date reveals that a source of difficulty for researchers has been the lack of clear results as to the diagnostic utility of the KFD. That is, findings of studies using various criterion

measures to establish diagnostic ability have been unclear (Refer Chapter 2 sections 2.7. and 2.8.). Whether these findings indicate poor choice of instruments with which to compare the KFD is probable (Mostkoff & Lazarus, 1983). Therefore, present research is directed towards establishing which criterion(s) the KFD may be assessing.

Kinetic Family Drawing studies concerned with family functioning outlined in Chapter 1 section 1.8., demonstrate one area of potential diagnostic utility. Given that studies utilizing the KFD to ascertain aspects of family functioning have been successful, and given that the individual is required to draw all members of the family, it is reasonable to examine whether the KFD could be used to assess family functioning. If this is found to be so, it will be important to ascertain which drawing parameters are implicated in existing family functioning patterns to ascertain the possible clinical utility of the KFD.

Previous literature has shown that the following KFD parameters appear to be indications of family functioning: father activity level, presence of family members, lack of kinesis, distance between figures, obstacles to mother-child interactions, mother activity level, isolation of family individuals, family members participating in different activities, omissions of family members, barriers between figures, incorrect member depiction, and direction of figures. Although the KFD has been used with adults, (Refer Chapter 1 section 1.6.6., and Chapter 2 section 2.7.) an empirical investigation of an entire family's perceptions using the KFD has not been attempted, although there have been studies which have pointed to the utility of this approach (Refer Chapter 2 sections 2.7 and 2.8.).

One objective of this study is to acknowledge the complexity of family functioning by including each member's perceptions of the family, by examining each members' drawings. This will provide data to assess whether KFDs are indices of family functioning. Therefore, one further objective is to systematically investigate each dimension of the Family Assessment Device and it's association with each category of the KFD, for every family member. This exploration will be augmented by quantification of this relationship should it exist.

If adult KFDs are to be collected, in conjunction with their children's depictions, it would seem pertinent to systematically examine the KFDs of adults in conjunction with the KFDs of their children. A further objective of this study will be to investigate any potential differences between the KFDs of children and adults. This will enable this researcher to ascertain whether the KFD may constitute a Projective drawing technique to be used by adults.

In past research, certain investigators found gender differences. Therefore, one of the aims of this study is to systematically investigate any differences in KFD scores which could be attributed to gender.

In the pilot test for this research, it became evident that individuals who participated were generally portrayed according to their occupations or their primary interests i.e. their hobbies by their families in the Action dimension of the KFD. Thus, it was decided to collect information regarding occupations and interests and examine them in conjunction with the Action dimension of the KFD for each research participant.

Thus, it is an objective of this study to examine the activities of each drawing so as to ascertain whether the actions portrayed were similar to occupations or interests of drawers.

3.3.1. Choice of statistical procedures

There is increasing recognition of the value of multivariate procedures and analyses. According to Green (1978), a univariate analysis is limited as constructs may not be efficiently encompassed by a single measurement. Therefore, a univariate analysis would not indicate, for example, which FAD scale score varies with the different KFD scores. Green states that it is possible to obtain no univariate effects but a significant multivariate difference. Furthermore, multivariate procedures enable accumulation of evidence regarding the interaction of dependent variables. In recognizing the complexity of family functioning, the present study seeks to utilize multivariate procedures wherever possible to enable this researcher to more fully comprehend this complexity. In addition, multivariate procedures offer the System's theorist appropriate measures to comprehensively examine the family system (Green, 1978). Therefore, when statistically possible, and to uphold System's assumptions which underly the present study, multivariate procedures will be employed.

3.3.2. Inter-rater reliability

This study is focussed on the KFD which is scored by a rater making evaluations of the presence or absence of particular parameters in the drawing. The evaluation process of a KFD protocol is therefore a potential source of rater bias. It is acknowledged that the researcher, being fully cognizant of the aims of the research, may unconsciously bias KFD scores (Green, 1979).

In order to control for bias in the rating of the KFD protocols, it will be neccessary to have subjects' protocols re-scored by a qualified rater who is `blind' to the overall purpose of the research. Inter-reliability coefficients may then be calculated to measure the extent of bias.

3.3.3. Post-experimental enquiry

It has been acknowledged by Carlsmith, Ellsworth & Aronson (1976), that a post-experimental enquiry is of importance to determine whether characteristics pertaining to demand effects were operating at the time of data collection. Therefore, a post-experimental enquiry will be incorportated into the design of the present study. Each protocol of the post-experimental enquiry will be collected separately to further minimize bias, suggested by Carlsmith et al. (1976).

3.3.4. Minimizing of demand characteristics

As was mentioned in the previous subsections, the research design incorporated inter-rater reliability coefficients and a post-experimental enquiry to assess effects of demand characteristics. Other methodological considerations included the the presentation of a plausible hypothesis regarding the purpose of the research i.e. subjects were `blind' to the overall purpose of the research. Participants were told that this researcher needed to improve aspects of the KFD; therefore a number of protocols needed to be collected. The inclusion of the FAD was also mentioned. (Refer to appendix E for standardized introductory format). Furthermore, the school Psychologist who orginally contacted the participant families was given a standardised format, which provided minimal information to participants regarding the purpose of the research. Therefore, information pertaining to the purpose of the research was only contained

within the format presented by this researcher and may be examined in Appendix E.

3.4. Research questions and hypotheses

Following the recommendations outlined in the previous subsections, a number of research hypotheses were formulated, and are outlined in this subsection.

The crucial variable in this research is that of family functioning. It is important therefore, to clarify what is meant by family functioning, before outlining research hypotheses.

For the purposes of this study, family functioning is operationally defined in terms of the McMaster Family Device or (FAD), which conceptualizes family functioning on seven dimensions, that is, Problem Solving, Communication, Affective Involvement, Affective Responsiveness, Roles, Behaviour Control and General Functioning.

The second means of measuring family functioning will be through Kinetic Family Drawings. There is a paucity of empirical work in this area, although previous findings seem to indicate that this is one criterion which the KFD may be measuring (Refer Chapter 1 section 1.8.).

Therefore, the present study will address the entire family's functioning through an assessment of each members' drawings and FADs. Therefore, each family member will be required to complete both the FAD and the KFD. As discussed in previous sections, this represents an attempt to establish whether the KFD may be used with adults, and whether the drawings are indications of family functioning. Thus, in accordance with System's theory, the present study

undertakes to examine the context within which the individual operates i.e. the family unit.

3.4.1. Family functioning

Studies referred to in Chapter 1, section 1.8., indicated that studies which have been conducted using some form of family functioning as the criterion measure have been successful. Given this finding, it is assumed that family functioning can be studied in conjunction with the KFD. By systematically examining the KFD scores in conjuction with the FAD scores, a potential source of family functioning information may be ascertained through the KFD. The following hypothesis is therefore postulated on the basis of previous research findings.

> The KFD can depict family functioning as operationally defined by the Family Assessment Device (Epstein, Baldwin & Bishop, 1983)

3.4.2. Use of the KFD with adults (choice of drawing paramter)

Although there have been studies which have examined the KFDs of adults, no empirical work exists which systematically examines the differences (if any) between the KFDs of adults and their children. A few studies have, however, reported that adult KFD depictions were meaningful within the context of psychotherapy and counselling of abusing parents and those of deformed children (Refer Chapter 1 section 1.4.).

By systematically examining the KFD scores with the FAD scores between all family members, it may be ascertained whether the drawing parameters of the KFD are used by both adults and children with reference to specific family

functioning dimensions. Therefore, the following hypothesis is postulated:

> Drawing parameters of the KFD will be used by both adults and children

3.4.3. Gender of drawer

There have been studies which have systematically examined how gender of the drawer influenced KFD scores. Depending, however, upon the unit of analysis for each study, it was found that gender had a varying effect upon KFD responses (Refer Chapter 1, section 1.6-1.7.). In view of these findings, the following hypothesis is postulated:

> The gender of the drawer will have no significant influence upon the selection of KFD parameters.

3.4.4. Content of KFD drawings of families

The pilot test of the present study indicated that family members may depict themselves and others in the family unit involved in occupational or recreational activities. Therefore, the present study will examine each family to assess whether this occurs across families. Due to a paucity of research in this area, the examination of these themes must remain at an exploratory and therefore qualitative level.

3.5. Sampling

As indicated previously, the crucial variable in this research was family functioning. In particular, the researcher was interested in how members would report their perceptions of family functioning on the FAD and the KFD. In designing this study, it was initially intended to include

families who could be described as dysfunctional according to scores on the FAD, to increase variability amongst scores. The availability of these families were, however, subject to a number of constraints, such as

1. Lack of clinical training by the researcher and therefore difficulty in gaining access into dysfunctional family systems.
2. The ethical problems concerned when entering into dysfunctional family systems, without an appropriate clinical referral system.
3. Difficulty in locating dysfunctional families.
4. The wariness of agencies to utilise a non-staff member in their settings.

Therefore, it was concluded that participant families would have to be `well-functioning', which was assessed according to scores on the FAD. Research participants were required to be 12 years or older to complete the FAD; therefore participant families were contacted through a secondary school in Cape Town. The initial contact with families was by the school Psychologist, who through her position had access to families. The use of the school psychologist to initiate contact with these families was to engender trust in the research process and to provide the researcher with credibility. The school Psychologist contacted families using names from class lists, and would telephone each family name until contact with a family occured. The school Psychologist was provided with a standardised introductory format (Refer Appendix D). Once contact with a family had occured, the family member was questioned as to the possible interest of the family in participating in research. If interest in participation was expressed, this researcher would contact the family, acquiring the names of the interested families through the school Psychologist.

In an attempt to minimize extraneous variables which could confound the study, certain criterion measures restricted the number of appropriate families. There were also practical requirements to be met when using the FAD and KFD. These were included in the screening questionnaire which this researcher used during initial contact with the participant families. (Please refer to appendix E for screening questionnaire and intial contact information, including information given to participants regarding the purpose of the research). These were, first marriage for both parents, each family had to contain two children, who were both resident with the parents, all children were to be the biological children of the parents involved, all families had to be first language English-speaking. Information regarding physical handicaps was gathered, as was information regarding any long standing psychiatric illness and information pertaining to extended family who may be residing with the nuclear family, and finally, information regarding medication usage of family members (Notes 1 - 10 found at the end of this chapter discuss the rationale for these criterion measures fully).

These criterion measures yielded a final sample of 24 families, each containing 2 parents, one being male and one female, and two children. An unequal number of males and females were entered into this sample, since any attempt to control for gender of children would have resulted in a very small sample.

In short, given the criteria specified above and the requirements of the research design, the present sample is exhaustive.

Of the 24 families who participated in this study, the parents (n=48) constituted 50% of the sample, whilst the children (n=48) also constituted 50% of the sample. The

parents' ages ranged from 36 years to 56 years, while the children ranged in ages from 13 years to 21 years. There were 38 males and 58 females. Five children were enrolled in tertiary institutions, while 39 particpants were scholars. The other participant occupations included amongst others, lawyers, teachers, directors, bookkeepers, bank clerks and housewives. The participants had a wide range of interests including amongst others sport, family activities and handwork. Both sets of data, occupations and interests, will be comprehensively detailed in the following chapter. As indicated above, the `children' referred to constitute an adolescent population, according to the ages within this sample (Ackerman, 1984). Therefore, hereafter, the children will be referred to as adolescents. This will have important implications when the findings of this study are discussed.

All families lived in the metropolitan area of greater Cape Town and were classified `white'. The inclusion of other population and language groups presented problems for this researcher. Firstly, the FAD has not been reliably translated into relevant South African languages, and to have translated the FAD would have constituted a major study. Secondly, to have included persons of other ethnic groups in this study would have introduced major confounding variables. This was beyond the scope of the present study.

3.6. Statistical analysis of study

Data collection was facilitated through the use of the McMaster Family Assessment Device (FAD) scale (Epstein et al. 1983), and through Kinetic Family Drawings (KFD) (Burns & Kaufman, 1972). The KFDs were scored according to the format developed by Burns (1982) and Steenhuisen (1987). The use of these scoring formats allows for quantitative analysis i.e. both the FAD and the KFD are divided into various dimensions by these scoring formats. The KFD

dimensions include Actions, Characteristics, Positions, and Styles; the FAD dimensions include Problem-Solving, Roles, Behaviour Control, Affective Responsiveness, Affective Involvement, Communication, and General Functioning.

The design of this study aimed at allowing for formal comparison of these dimensions of the KFD and FAD i.e. the assessment of the degree of association between the FAD and the KFD.

The dimensions indicated above were combined into a multivariate analysis, i.e. canonical correlation, suggested by Dixon (1983), which enables the researcher to assess the individual variance and combinations of variance amongst these dependent variables. Through least squares analysis, two linear composites are formed, one for the independent variables and one for the dependent variables. The method systematically extracts the first and largest source of variance where the canonical correlation coefficient is an index of the relation between the two sets of variables based on this source of variance. In multiple regression, although the dependent variable may contain more than one source of variance, there is only one regression equation. Canonical correlation assesses whether one set of measures reflect any underlying phenonemon within the second set. Thus, canonical correlation will enable this researcher to examine whether the KFD is measuring similar constructs to the FAD; that is, to assess whether the KFD is measuring family functioning as determined by the dimensions of the FAD.

Further quantifiable information was collected through an analysis of the content of each drawing regarding the choice of drawing parameters by each member. As there is no reason to expect that the choice of a drawing parameter by a parent would be affected by the choice of a drawing parameter by a

child, or vice versa, (as this was controlled by this researcher), the assumptions of the Chi-square were not violated (Howell, 1982). Thus, the frequencies of choice of content by family members lent themselves to non-parametric Chi-square analysis.

Demographic information such as ages, occupations and interests was also collected and compared to the `action' content of each drawing.

Correlations between gender and the KFD and FAD variables were calculated to assess whether gender had any differential effects upon these variables.

Inter-rater scores were collected to determine whether rater bias was minimized during data scoring.

A post-experimental enquiry was conducted to determine whether effects of demand characteristics were operating at the time of data collection. These questions are outlined in Appendix F. The questions were designed to explore the participants' perceptions of reasons for participating, purpose of the research, difficulties in completing the research tasks and the clarity of instructions.

3.7. Apparatus

The apparatus utilized in this study will be fully explicated in the following sections.

3.7.1. The Kinetic Family Drawing

The Kinetic Family Drawing is a Projective drawing which requires that each individual depicts his or her family members involved in some activity. The scoring method proposed by Burns (1982) and further developed by

Steenhuisen, (1987) will be incorporated into the present study. The scoring format has well defined dimensions (Refer Appendix A) namely Actions, Positions, Distances and Barriers, Characteristics and Styles.

These dimensions are further delineated into figure activity level, figure cooperation level, narcissism, sadism, figure communication level, masochism, nurturance, tension, fields of force (Action dimension); number of barriers between the drawer and others, figure orientation, physical proximity, interaction of self (Position, distance and barrier dimension); arm length, body, eyes, facial expression, face, roots, complete family, size of parents, teeth present, relative height of figures, ascendance, precarious figures, bizarre figures, erasures, arm extensions, figure on the back of the page, rotation of figures, shading, line quality, evasions, missing essential parts (Characteristic dimension) and compartmentalization, edging, encapsulation, folding compartmentalization, lining on the bottom of the page, underlining individual figures and bird's eye view (Style dimension). These drawing parameters have been detailed in Chapter 1 section 1.6. Each figure depicted within the drawing is given a score which is then tallied for that subsection within the KFD category. As this scale was developed relatively recently, there exists scant information regarding the range of scores which the researcher is expected to find. There is the general expectation, however, that the higher the scores, the more poorly that individual is functioning. This is evident when examining how each subsection is scored. For example, in figure activity level, if an individual is depicted as reading, that activity is scored as three. If, however, that individual was to be depicted as hitting someone, that activity would receive the score of eight.

3.7.2. The McMaster Family Assessment Device (FAD)

The FAD has been detailed at length in section 2.6. It is essentially a screening instrument, which assesses functioning on the seven dimensions. These are Affective Involvement, Affective Responsiveness, General Functioning, Roles, Behaviour Control, Communication and Problem Solving. The FAD instructions are relatively simple and are presented to participants in written form (Refer Appendix B). The FAD consists of 60 statements, and participants are requested to check the response which most agrees with their family (Refer Appendix C) i.e. whether the check was strongly agree (1), agree (2), disagree (3) or strongly disagree (4). The scoring sheet for the FAD requires a summation of scores for each dimension. The scale or dimension score is derived through dividing the summation score by the number of questions in the dimension that were answered. The scores range from one to four; a score of one indicating good functioning on that dimension, and a score of four indicating very poor functioning on that dimension. Scores tend to vary between one and four. Therefore, for both the FAD and the KFD, the higher the dimension score, the more poorly the individual is functioning with reference to that dimension.

3.8. Study procedure

Families were contacted through a secondary school via the school Psychologist. After the initial contact, the Psychologist would inform potential participants that Master's research was being conducted, and that families were required for this research and ask whether they would be willing to take part. If these families agreed, this researcher would contact them, and either through short personal interviews or by telephone, briefly outline the research, and establish whether the criterion requirements

were fulfilled (Refer appendix E for initial contact format and criterion questions). If criterion requirements were met, and the family agreed to participate, the researcher would then negotiate an appropriate contact date. Prior to the telephone contact, the researcher would have had no previous personal contact with the research families.

The data collection occured in participant homes. It had been established in pilot testing that families felt more secure and at ease in their familiar surroundings. Thus, it was felt that this setting would enable the establishment of rapport.

As previously mentioned, the order of administration of instruments was determined by results in the pilot study. Thus, the KFD was collected initially, followed by the completion of the FAD, after which the demographic information was collected. The participants were given the following instructions for the KFD: "I'd like you all to draw your family, including yourself, all involved in some activity. Whatever you think represents your family best. No stick figures or cartoons are allowed. If you feel that you can't draw, remember that you can draw a round face and arms etc. It's important that your drawing is your own, so that each of you must do this separately and without talking". These instructions are similar to those suggested by Burns & Kaufman (1972). Participants were all provided with identical pencils and A4 size white paper on which to complete the KFD. By ensuring that participants completed the drawing separately, it ensured that each member's depictions would be, as far as possible, his or her own. At completion of the drawing task, the researcher proceeded to ask each member details regarding the drawings, such as which member was represented by which figure and the activity the member was engaged in. Further, the researcher

enquired about any marks on the paper that were unclear to her.

Thereafter, each member received a FAD to complete. This self-report questionnaire may be used through the post (Epstein et al. 1983). In order to ensure that the researcher would receive this data, and that the answers provided were the answers of each participant, families were required to complete the FAD within the initial interview. The instructions provided for the completion of the FAD were as given by Epstein et al. (1983) (Refer Appendix B). Thereafter, information concerning occupations, interests and ages was collected.

The duration of each interview varied from between one hour and one and a half hours.

Families were again assured of the confidentiality of their responses, and were also informed that the findings of this research would be made available to them upon completion should they so wish.

All KFD drawings were first rated by this researcher, according to the scoring formats of Epstein et al. (1983) and Steenhuisen (1985). The ratings were conducted `blindly'; that is drawings were first coded by a student who was contracted especially for this task. The student was asked to code the drawings in such a way that this researcher was unaware of the identity of the drawer. At the time of rating, this researcher was unaware of how the codes were assigned, and was therefore blind to the identity of the KFD drawer. This ensured that experimenter bias was minimized during the initial rating.

To measure further the extent of rater bias upon scores, a Master's level Psychology student was approached to re-score the research subjects's KFD protocols. This individual was not informed of the research design, nor was he involved in any other aspect of the research. Appropriate information regarding scoring in the form of journal articles and books were given to the rater with the research subjects's protocols. He scored all protocols according to the scoring system outlined by Burns (1972) and developed by Steenhuisen (1985) and was paid a contract fee for his work. These scores were then statistically compared with this researcher's scores, that is inter-rater reliability coefficients were calculated according to the formula developed by using Pearson product moment correlations outlined in Carlsmith et al. (1976).

In order to control for demand effects, all participants were partially informed about the research, using the standardised format, as outlined in Appendix E. Furthermore, a post-experimental enquiry was performed by a Master's level Psychology student to assess the influence of expectations about the research by the participants upon the research data. A Master's student was contracted to complete the enquiry due to two constraints, namely accessibility to research participants by this researcher and the recognition that a demand effect may still be operating if participants were to be questioned by the original researcher.

Each of the 24 research families were assigned a number, and the final eight families (n=32) were chosen using a random number table (Kerlinger, 1973). Each family was contacted by letter to enquire whether there were any objections to the contracted student contacting them (Refer Appendix G). The contracted student was given the post-experimental enquiry protocol and proceeded to complete the enquiry (Refer to appendix F for protocol). The student contacted the

families, using a standardized introduction format presented in appendix F. Each member of the family was asked the same questions, in the same order. As previously mentioned, each protocol was collected separately to minimize bias. The student was asked to clarify any unusual reponses to the questions posed.

The presentation of results and analysis of data is considered in the following two chapters.

Notes

1. First marriage for both parents:
As the dynamics of a blended or extended family may have confounded results, only those parents who had not remarried were included in the sample.
2. Each family had to contain two children:
As the scores on the KFD were cumulative, it was imperative that only families with two children were chosen, to prevent artificially raised scores.
3. Children were resident with the family:
Interactions between family members differ significantly after children vacate the nuclear family; therefore in order to achieve an homogenous sample, only families whose children still resided with their parents were included.
4. All children were to be the biological children of the parents:
Relationships within families with adoptees may differ significantly to families with biological children of parents. Therefore, to prevent the confounding of the results, all children were required to be the biological children of the parents involved.
5. All families had to be first language English speaking:
It was recognized that the inclusion of other language groups may have confounded results. Furthermore, as the FAD has not been reliably translated into relevant South African

languages, all families were required to be first language English speaking.

6. Exclusion of those with physical handicaps:

It was recognized that individuals with physical handicaps may have difficulty in completing the research tasks. Therefore they were excluded from the present study.

7. Long-standing Psychiatric illnesses:

It was recognized that individuals with long-standing Psychiatric illnesses may perceive the research tasks somewhat differently to those individuals who did not have long-standing Psychiatric illnesses. Therefore those individuals were excluded from the present study.

8. Extended family:

The KFD and FAD scores are cumulative and therefore the inclusion of scores of extended family would have confounded the results.

9. Family members on medication:

The use of medication may lead to drowsiness and alter perceptual states. Therefore, individuals using medication were excluded from the present study.

CHAPTER FOUR

Results

4.1. Introduction

The data for the present study was collected by means of the Kinetic Family Drawing (KFD) (Burns & Kaufman, 1972) and the McMaster Family Assessment Device (FAD) (Epstein, Baldwin & Bishop, 1983) and was subjected to various forms of quantitative analysis. Both parametric and non-parametric methods, where appropriate, were utilized in this analysis.

Parametric methods were used to analyze the scores obtained from the KFD scoring format and the FAD i.e. data pertaining to family functioning. Non-parametric and descriptive methods were employed to examine the extent to which adults and children utilized parameters of the KFD. Correlations between gender and the KFD and FAD variables were calculated and are reported. A form of qualitative analysis consisted of an examination of the `action' content of each drawing and concomitant occupational and recreational activities.

Since the variables of interest in this study fall under relatively autonomous categories, the results will be presented as such. Therefore, the first section concerns the investigation of the links between the KFD and the FAD by means of canonical correlation. The second section is concerned with whether adults and their children utilize similar drawing parameters, through the examination of frequencies of use and Chi-square tests of association where appropriate. The third section is concerned with the `action' content of the drawings, while the fourth section concerns the effect of gender upon KFD and FAD scores. This will be examined through correlations between gender and FAD and KFD scores. The fifth section outlines inter-rater

reliability coefficients. Finally, findings pertaining to the post-experimental enquiry are presented.

The following sections will present the findings of this study. A comprehensive interpretation of these results, however, will be considered in the following chapter.

4.2. Section one: Parametric analysis of family functioning as depicted in the KFD

Each dimension derived from the KFD, namely Actions, Positions, Distance and Barriers, Characteristics and Styles was combined with each dimension derived from the FAD namely, Roles, Behaviour Control, Affective Responsiveness, Affective Involvement, General Functioning, Communication and Problem Solving into canonical correlation analysis. As noted in Chapter 3, section 3.4., canonical correlation is an effective and appropriate means by which to assess whether the KFD and the FAD are measuring similar constructs. Therefore, canonical correlation coefficients will indicate whether the KFD is measuring similar constructs to the FAD, namely family functioning. Each canonical correlation is presented in tabular form to augment discussion in Chapter five.

Table 4.2.1. Canonical Correlations

Eigenvalue	Canonical Correlation	Chi-Square	D.F.	Probability
.24460	.494	46.45	28	p<.05
.14094	.375	21.49	18	p>.05
.14094	.270	7.97	10	p>.05
.01331	.115	1.19	4	p>.05

Chi-square = 46.45 Df=28 p<.05

As indicated by the table, the analysis resulted in four canonical correlations between the FAD and the KFD. An overall Chi-square of the correlations was significant at the .05 level. A significant overall Chi-Square indicated that the two sets of variables are related i.e. they appear to be measuring similar constructs.

Canonical variable loadings were also calculated to assess whether any KFD variables correlated significantly with the canonical variables. Each KFD dimension will be shown, with their correlation with each of the four canonical variables.

Table 4.2.2. Canonical variable loadings (CNVRF1 -4)

	CNVRF1	CNVRF2	CNVRF3	CNVRF4
Action	0.798	-0.078	0.454	-0.388
Position	0.857	0.343	-0.329	-0.199
Character.	0.060	0.591	0.635	0.493
Styles	0.615	-0.331	-0.274	0.662

Thus, it appears as if the Action, Position and Style dimensions correlated significantly with the first canonical variable.

Canonical variable loadings were again calculated to examine whether any FAD dimensions correlated significantly with the canonical variables. Each FAD dimension was correlated with each of the four canonical variables, and will be presented in tabular form.

Table 4.2.3. Canonical Variable Loadings (CNVRS 1-4)

	CNVRS1	CNVRS2	CNVRS3	CNVRS4
Problem Solving	0.393	0.041	-0.181	0.555
Communication	0.876	0.138	-0.328	0.253
Roles	0.593	-0.635	0.139	-0.151
Affective Responsive.	0.656	0.394	0.285	0.228
Affective Involvement	0.498	0.123	-0.227	-0.447
Behaviour Control	0.238	-0.064	0.289	-0.339
General Functioning	0.848	0.057	0.86	-0.015

Thus, the table indicates that the Communication, Roles, Affective Responsiveness and General Functioning dimensions correlated significantly with the first canonical variable, again lending credence to the finding that the KFD and FAD are measuring similar constructs.

4.2.4. Predicting KFD and FAD dimensions

Squared multiple correlations between each KFD dimension and each FAD dimension were calculated to ascertain whether the FAD could significantly predict any of the KFD dimensions. If any significant correlations were to be found, this researcher would have more confidence in the hypothesis that the KFD may be indicating family functioning. Each dimension of the KFD will be presented with its squared correlation with all the FAD dimensions, and the significance level obtained.

Table 4.2.4.1. Squared multiple correlations

Dimension	Rsquared	Adusted R	F Statistic	DF	probability
Action	.174	.108	2.65	7 88	p<.05
Positions	.204	.141	3.24	7 88	p<.05
Character.	.083	.010	1.14	7 88	p>.05
Styles	.119	.049	1.70	7 88	p>.05

Squared multiple correlations between each dimension in the first set and all dimensions in the second set indicated that the FAD significantly predicted the Action and Position dimensions.

Squared multiple correlations between the dimensions of the FAD and the dimensions of the KFD were calculated to assess whether any KFD category could significantly predict any FAD dimension and are presented in the following table.

Table 4.2.4.2. Squared multiple correlations

Dimension	R Squared	Adjusted R	F Statistic	Df	Probability
Problem.	.044	.002	1.06	4 91	p>.05
Communic.	.199	.163	5.66	4 91	p<.05
Roles	.144	.107	3.85	4 91	p<.05
Affective.R	.133	.095	3.51	4 91	p<.05
Affective.I	.069	.028	1.69	4 91	p>.05
Behaviour.C	.022	-.020	0.51	4 91	p>.05
General.F	.176	.140	4.89	4 91	p<.05

Squared multiple correlations of each dimension in the second set with all variables in the first set indicated that the KFD significantly predicted the Communication, Roles, Affective Responsiveness and General Functioning dimensions of the FAD.

Squared multiple correlations of each KFD dimension with all the remaining KFD dimensions were then calculated to assess the source of variance in KFD scores. Squared multiple correlations of each KFD variable with all the other KFD variables indicated that Actions and Positions together accounted for 80% of the variance in KFD scores.

Squared multiple correlations of each FAD variable with all the other FAD variables indicated that General Functioning accounted for 73% of the variance in FAD scores, which is consistent with previous research.

Given that the overall Chi-square of the canonical correlations achieved significance at the 0.5. level, (Refer Table 4.2.1.), and, following suggestions that researchers should interpret canonical variable loadings cautiously (Kerlinger & Pedhazur, 1973), a multivariate test for significance for the obtained correlations was calculated. Steiger (1980) states that this is one way to obtain experiment wise error rate protection i.e. performing a simultaneous hypothesis test that all correlations are zero, therefore assessing whether the correlations obtained using FAD and KFD scores were significantly greater than zero. If this is found to be so, more confidence may then be placed in the findings of overall Chi-Square significance. If the Ho is rejected then no further individual tests are performed (Steiger, 1980).

A correlation matrix between the FAD and KFD dimensions was subjected to a multivariate test for significance. An overall Chi-Square was significant at the .05 level i.e. Chi-Square = 47.95 Df= 28 $p<.05$.

An overall significant result indicated that the correlations obtained were significantly greater than zero, enabling this researcher to have more confidence in the obtained results. It should be noted that although previous researchers have included a total KFD score in analysis (a global summation of scores) a linear composite score is not suitable for canonical correlation analysis and was therefore excluded (Kerlinger & Pedhazur, 1973). The following subsection will examine the frequencies of choice of KFD parameters by participants.

4.3 Section two: Non-parametric analysis of adult and children's scores

4.3.1. Use of Chi-square to assess frequencies of choice

To address the question of whether the KFD could be used with adults the calculation of frequencies of choice of drawing parameters by adults and their children was undertaken. The underlying assumption was that if the KFD was to be used by adults, KFD parameters should be chosen by both adults and their children. If this was found to be so, this researcher would be able to ascertain whether adults use KFD parameters, therefore lending credence to the hypothesis that the KFD may be used meaningfully with adults.

This hypothesis was examined using Chi-square tests of association of frequencies. The Chi-square may be used if fewer than 20% of the cells have an expected frequency of less than 5, and if no cell has an expected frequency of zero. Furthermore, when using Chi-square it is important to note whether its assumptions are met by the data. As there was no reason to expect that adults would choose the same parameters as the children; that choice of one parameter by a child would not affect the choice of an adult and vice versa, the assumption of independence was retained and Chi-Square analysis of the frequency of research participants' choices of drawing parameter was undertaken, where appropriate (Howell, 1984).

Spiegal (1956) suggests that if the requirements of Chi-square analysis are not met by the data in the form in which it was originally collected, adjacent categories may be combined to increase the expected frequency in the various cells. Provided that the assumptions of the Chi-square test

can still be met, this test may be meaningfullly applied to the data. The data of the present study was collected in four categories i.e. mother, father and the two siblings. Therefore, to facilitate statistical analysis of choice of drawing parameters by mothers, fathers and siblings, these categories were combined i.e. fathers and mothers were combined into the role of parent, as they constitute a parental subgroup, while elder sibling and younger sibling categories were combined into the role of adolescent, as these roles constitute an adolescent subgroup, according to Ackerman (1984). As the assumptions of Chi-square were upheld, non-parametric analysis of choice of drawing parameter by adolescent and parent was examined.

It should be noted that many drawing parameters obtained frequencies of less than five or obtained the same frequencies for both the parent and adolescent groups. Furthermore, some parameters were not used by either group. Therefore, these variables could not be included in Chi-square analysis. These frequencies are, however, reported in a cumulative form in the following subsection and will be discussed in Chapter five. Each KFD dimension is presented with the appropriate drawing parameters.

4.3.1.1. KFD drawing parameters obtaining frequencies of less than five

Action dimension:

Standing; riding; running; helping; listening; laying with; holding; smoking; slipping; hanging; falling; planting; figure playing with ball.

Positions, distance and barriers dimension:

Four barriers; interaction of self with whole family.

Characteristics dimension:

Half length of body; head only; head, neck, torso and leg; friendly expression; unfriendly; eyes only; feet half length of leg; unrealistically large; unrealistically small; teeth present; above others; below others; precarious figures; bizarre figures; erasures; figure on back of page; rotation of figures; light, uneven; heavy, overworked; stick figures; no action; feet missing.

Style dimension:

Encapsulation.

4.3.1.2. KFD parameters not utilized by either group

Action dimension:

Hitting; throwing; dressing; combing; looking; fighting; hurting; kicking; biting; burning; being hit; being kicked; being cut; being burned; being shot; being killed.

Postitions, distance and barriers dimension:

Two barriers and three barriers.

Characteristic dimension:

Very unfriendly expression; face absent; feet 1/4 length of body; shading; arm 0-1/8 length of body.

Style dimension:

Edging; folding compartmentalization; lining on the bottom of the page; underlining individual figures; bird's eye view.

4.3.1.3. KFD parameters obtaining equal frequencies

Action dimension:

Laying; shooting; watching; no cooperation; no narcissism; no sadism; no tension.

Position, distance and barriers dimension:

There were no parameters in this dimension which obtained equal frequencies.

Characteristic dimension:

Very friendly expression; feet on wheels; feet normal; complete family drawn.

Styles dimension:

There were no parameters in this dimension which obtained equal frequencies.

The remaining parameters in each dimension were subjected to Chi-square tests of association, and are presented in the following subsection.

4.3.2. Chi-square analysis of Action dimension

Table 4.3.2.1. Chi-square: Figure co-operation level X Role

Parameter	Parents	Adolescents
working	9	5
playing together	9	15
Total	18	20

Chi-square = 2.52 Df=1 $p>.05$

A non-significant result indicated that similar numbers of adults and adolescents utilized these drawing parameters.

Table 4.3.2.2. Chi-square: Figure activity level X Roles

Parameter	Parents	Adolescents
sitting	12	19
standing	26	6
doing	35	39
reading	6	9
Total	79	73

An overall Chi-square was calculated and found to be significant at the .05 level.

Chi-square = 13.984 Df = 1 $p<.05$

Green (1978) suggests that further calculations may be undertaken to ascertain which drawing parameters were contributing to this significant result. It was found that the drawing parameter `standing' was contributing to this

significant result, and is illustrated in the following table.

Table 4.3.2.2.1. Further calculations to ascertain origin of significant results

Parameter	Chi-square	Df	Probability
standing	18.75	1	p<.05 (significant)
sitting	2.33	1	p>.05 (non-significant)
doing	0.82	1	p>.05 (non-significant)
reading	0.61	1	p>.05 (non-significant)

Table 4.3.2.3. Chi-square: Figure communication X Roles

Parameter	Parents	Adolescents
no communication	42	39
communicating	6	9
Total	48	48

Chi-square = 0.71 Df = 1 p>.05

This result indicated that similar numbers from both groups utilized these parameters.

Table 4.3.2.4. Chi-square: Fields of force X Roles

Parameter	Parents	Adolescents
presence of	18	15
no presence	30	33
Total	48	48

Chi-square = 0.412 DF = 1 p>.05

This result indicated that similar numbers of parents and adolescents utilized the parameter fields of force.

4.3.2.5. Summary

The previous Chi-square tests of association were utilized to determine whether there were significant differences in the choices of drawing parameters by parents and adolescents. It was found that figure cooperation level, figure activity level, figure communication, and fields of force were utilized by similar numbers of parents and adolescents.

The following subsection will examine the frequencies obtained by parameters in the KFD dimension, Position Distance and Barriers.

4.3.4. Positions, Distances and Barriers

Table 4.3.4.1. Chi-square: Pos variables X Roles

Parameter	Parents	Adolescents
one barrier	17	8
figure facing	14	8
figure not facing	34	40
no barriers	31	40
united group	9	12
disp. Individuals	26	28
subgroups	6	2
no Interaction by drawer	26	28
with one or both parents	12	13
with sibs/children	10	7
total	185	186

Chi-square = 3.33 Df = 9 p>.05

The above result indicates that similar numbers of adults and adolescents utilized these Positional drawing parameters.

The following subsection is concerned with the frequencies obtained by adults and adolescents in the KFD dimension, Characteristics.

4.3.5. Characteristics

Table 4.3.5.1. Chi-square: Arm length X Roles

Parameter	Parents	Adolescents
no hands	25	14
complete	26	31
Total	51	45

Chi-square = 3.09 Df = 1 p>.05

This result indicate that similar numbers of adults and adolescents utilized the above parameters.

Table 4.3.5.2. Chi-square: Ascendance X Roles

Parameter	Parents	Adolescents
self drawn on same level as others	40	38
not on same level	8	10
Total	48	48

Chi-square = 0.272 Df=1 p>.05

This result indicates that similar numbers of adults and adolescents utilized the above parameters

Table 4.3.5.3. Chi-square: Arm extensions X Roles

Parameter	Parents	Adolescents
yes	14	8
no	34	40
Total	48	48

Chi-square = 2.122 Df=1 p>.05

This result indicates that similar numbers of adults and adolescents utilized arm extensions.

Table 4.3.5.4. Chi-square: Facial expressions X Roles

Parameter	Parents	Adolescents
neutral	39	42
not neutral	9	6
Total	48	48

Chi-square = 0.71 Df=1 p>.05

This result indicates that similar numbers of adults and adolescents utilized a neutral facial expression.

Therefore, chi-square tests of association indicated that the Characteristic drawing parameters of arm length, ascendance, arm extensions, and facial expressions were used by similar numbers of parents and adolescence.

The following subsection will be concerned with the remaining KFD dimension, Styles.

4.3.6. Styles

Table 4.3.6.1. Chi-square: Compartmentalization X Roles

Parameter	Parents	Adolescents
compartmental.	5	10
no compart.	43	38
Total	48	48

Chi-square = 1.974 Df=1 p>.05

This result indicates that similar numbers of adults and adolescents utlized the parameter, compartmentalization.

The following section will examine the `action' content of each drawing to ascertain whether both adults and adolescents depict themselves and significant others according to work-related or recreational activities, as indicated by the pilot study.

4.4. Section three: Analysis of `action' content within families

As indicated in Chapter three, section 3.6., both parents and their children appeared to depict themselves and significant others involved in work-related or recreational activities in pilot testing. In order to establish whether this would occur in the study proper, each family member's depictions were assessed according to the action content of their drawings and then compared to their occupations and interests. In addition, general functioning scores are included for each individual, to further elucidate any trends which may be associated with general family

functioning. These are presented in a tabular form in Appendix H.

Summary frequencies were then calculated, to enable an overall view of this trend and to enable comparison, and are presented in the following tables. The Y-axis represents the individuals who depicted the fathers, mothers, elder sibling and younger sibling in the present study. For example, in table 4.7.1. below, 10.4% of fathers were portrayed as working by mothers. It should be noted that the following abbreviations will be used in the tables: Father - F
Mother - M
Elder Sib - ES
Younger Sib - YS

Table 4.4.1. Fathers portrayed as working

	Numbers	Percentages
F	5	10.4%
M	5	10.4%
ES	4	8.3%
YS	4	8.3%

Table 4.4.2. Fathers portrayed in recreation

	Numbers	percentages
F	2	4.2%
M	4	8.3%
ES	2	4.2%
YS	2	4.2%

Table 4.4.3 Mothers portrayed as working

	Numbers	Percentages
F	4	8.3%
M	2	4.2%
ES	4	8.3%
YS	2	4.2%

Table 4.4.4. Mothers portrayed in recreation

	Numbers	percentages
F	2	4.2%
M	5	10.4%
ES	3	6.3%
YS	5	10.4%

Table 4.4.5. Elder Sibling portrayed as working

	Numbers	Percentages
F	1	2.1%
M	1	2.1%
ES	1	2.1%
YS	0	0%

Table 4.4.6. Elder Siblings portrayed in recreation

	Numbers	Percentages
F	9	18.75%
M	10	20.83%
ES	6	12.5%
YS	6	12.5%

Table 4.4.7. Younger siblings portrayed as working

	Numbers	Percentages
F	2	4.2%
M	0	0%
ES	1	2.1%
YS	0	0%

Table 4.4.8. Younger siblings portrayed in recreation

	Numbers	Percentages
F	3	6.3%
M	4	8.3
ES	4	8.3
YS	10	20.83

These findings will be interpreted in Chapter five.

The following subsection will be concerned with the influence of gender upon results.

4.5. Section four: correlations between gender and FAD and KFD variables

A correlation matrix was calculated between gender and FAD and KFD dimensions, to assess whether gender correlated significantly with these dimensions, and therefore to ascertain the influence of gender upon findings. Upon examination of these correlations, it became evident that there was one significant correlation between gender and these variables, namely that between gender and Characteristics. The correlations are presented below in tabular form.

Table 4.5.1. Correlations between gender and the KFD dimensions

	act.	pos.	char.	styles
gender	0.06	-0.01	0.20	-0.03
	p>.05	p>.05	p<.05	p>.05

Thus, it appears as if the Characteristic dimension of the KFD correlated significantly with gender. The other dimensions did not achieve significant correlations.

Table 4.5.2. Correlations between gender and the FAD dimensions of Problem solving (Ps), Communication (Com), Roles (Rol), Affective Responsiveness (Afr), Affective Involvement, (Afi), Behaviour Control (Bec), and General Functioning (Gef)

	ps	com	rol	afr	afi	bec	gef
gender	0.18	-0.09	-0.01	0.14	-0.04	0.03	-0.07
probability	p>.05	p>.05	p>.05	p>.05	p>.05	p>.05	p>.05

The above table indicates that the dimensions of the FAD did not correlate significantly with gender.

4.6. Section five: Inter-rater reliability

In all the following comparisons, Pearson-product moment correlation coefficients were used. The approach taken for this analysis was to compare the dimensions of the KFD between two raters i.e. Actions, Positions, Characteristics and Styles for all 96 KFD protocols. The correlation coefficients are presented in the following table (Refer to Appendix I for raw scores).

Dimension	Rater1&2 correlation	
Actions	0.84	p<.01
Positions	0.69	p<.01
Characteristics	0.70	p<.01
Styles	0.66	p<.01

An overall r could not be calculated as the rating scale differed for each dimension of the KFD scoring format. These correlations will be interpreted in the following chapter.

4.7. Section six: Post-experimental enquiry

A post-experimental enquiry was designed to determine to what extent effects of demand characteristics operated during the data collection. Carlsmith et al. (1976) suggests that participants may not simply respond to experimental requirements, but also to their own interpretations about the behaviours these experimental requirements are supposed to elicit. Although participants may be partially `blind' to the purpose of research, as within the present study, they may assume that there are answers that will enhance or diminish their value in the eyes of the researcher. A post-experimental enquiry seeks to explore this potential for bias in responses by examining the participants' assumptions for the purpose of the research, whether they experienced any difficulties in responding which may have biased responses, and, motivation for participating. The selection procedure for participants in the post-experimental enquiry has been outlined in Chapter 3, section 3.8., and the questions contained within the post-experimental enquiry protocol are outlined in appendix F.

Each question is presented in this subsection, followed by the research participant replies to each and concomitant numbers and percentages.

Question one: What did you think the purpose of the research was?

78% (n=25) believed that the purpose of the research was to improve or change the drawing test.
15% (n=5) replied that they had forgotton.
3% (n=1) said they weren't sure.
3% (n=1) said purpose was not as stated.

Upon further enquiry, it was clear that this participant had not deliberately falsified his drawing in order to mislead this researcher. This participant believed that Psychologists gain information by indirect means, but had nevertheless complied with the given instructions.

Question two: Why did you agree to participate?

62% (n=20) replied because they wanted to.
9% (n=3) replied because it would be interesting.
6% (n=2) said because I am interested in Psychology.
15% (n=5) replied that they would like to be a psychologist so they had participated to see what doing research was like.
6% (n=2) said they like to help students

Question three: What did you think of the drawing task?

78% (n=25) thought it was fun.
18% (n=6) thought it had been exciting.
3% (n=1) found it thought provoking.

Question four: What did you think of the questionnaire?

53% (n=17) thought it was interesting.
6% (n=2) thought that it was too long.
31% (n=10) found it fun.
9% (n=3) said it made them think.

Question five: Were the researcher's questions clear to you?

93% (n=30) said there were no problems.
6% (n=2) said that they asked for clarification if they weren't sure.

The following section will provide a short summary of the results in this chapter.

4.8. Summary of results

The results of the present study have been analyzed by parametric and non-parametric methods where appropriate. In addition, a form of `content' analysis was used with respect to the `action' of each participant portrayed in the Kinetic Family Drawings. Furthermore, correlations between gender and the categories of the KFD and FAD were calculated.

Results indicated that there was a significant overall canonical correlation between the KFD and FAD variables. Non-parametric analysis of drawing parameters revealed that most KFD parameters were used similarly by both adults and adolescents. Furthermore, `content' analysis of drawings indicated that parents and adolescents do depict themselves as involved in work-related and recreational activities. Correlations between gender and each variable of interest in the present study revealed one significant correlation, that of gender and the KFD dimension, Characteristics.

Inter-rater reliability coefficients were calculated. Results pertaining to this subsection indicated that correlations between raters were high.

The results pertaining to the post-experimental enquiry indicate that the demand characteristics of the experimental situation did not seriously undermine the findings of this study.

The next chapter will involve an examination of the results of the present study in detail, in the context of previous research regarding Kinetic Family Drawings.

CHAPTER FIVE

Discussion

5.1. Introduction

In the previous chapter, the results of this study were presented. It is the aim of this chapter to further discuss and interpret these results within the framework of past literature. In order to facilitate understanding of these results, a summary will be offered, which simplifies the complexity of results set out in the previous chapter.

5.2. Summary of results

5.2.1. Family functioning

Each variable of interest was entered into canonical correlational analysis. An overall Chi-square of these canonical correlations was significant at the 0.05 level. Further multivariate analysis indicated that the correlations between the FAD and KFD variables were significantly correlated, which enabled this researcher to place more confidence in the findings of canonical correlation.

Upon analysis of the canonical variable loadings, it became evident that the Action, Positional and Style dimensions of the KFD correlated significantly with the first canonical variable, while the Communication, Role, Affective Responsiveness and General Functioning dimensions of the FAD correlated with the first canonical variable. It should be noted that although Characteristics did not correlate significantly with the first canonical variable, it did so with the second and third. Furthermore, Problem Solving and Behaviour Control not appear to correlate with the first canonical variable; Affective Involvement did not achieve

significant correlation with the first canonical variable as this correlation approached significance at 0.498.

Squared multiple correlations of each variable in the first set with all variables of the second set indicated that the FAD significantly predicted the Action and Positional dimension. Squared multiple correlations of each variable in the second set with all variables in the first set indicated that the KFD significantly predicted the Communication, Role, Affective Responsiveness and General Functioning dimension. Squared multiple correlations of each KFD variable indicated that Actions and Positions together accounted for 80% of the variance in KFD scores. Squared multiple correlations of each FAD variable with all other FAD variables indicated that General Functioning accounted for 73% of the variance in FAD scores, which is consistent with previous research.

5.2.2. Frequencies of choice by adults and adolescents

Non-parametric analyses were conducted where appropriate to ascertain frequencies of choice by adults and adolescents. Certain drawing parameters did not achieve frequencies of higher than five i.e. those parameters which were not used by more than five people, and therefore could not be included in Chi-square analysis. The following Action drawing parameters obtained frequencies of less than five, i.e. standing, riding, running, helping, listening, laying with, holding, smoking, slipping, hanging and falling.

Positional drawing parameters obtaining frequencies of less than five included four barriers, and interaction of self with whole family. Characteristic drawing parameters obtaining frequencies of less than five included arms 1/2 length of body, head only, head, neck torso and leg, friendly expression, unfriendly expressions, eyes only, feet

1/2 length of leg, unrealistically small, unrealistically large, teeth present, above others, below others, precarious figures, bizarre figures, erasures, figure on the back of the page, rotation of figures, light uneven, heavy overworked, stick figures and no action. One Style parameter obtained a frequency of less that five namely, encapsulation.

Certain parameters achieved equal frequencies i.e. they were used by equal numbers of adults and adolescents. Action parameters achieving equal frequencies included laying, shooting, watching, no cooperation, no narcissism, no sadism, and no tension. No Positional drawing parameter achieved equal frequencies. Characteristic drawing parameters obtaining equal frequencies were very friendly expression, feet on wheels, feet normal, and complete family drawn. Upon the recommendations of Spiegal (1956) and Howell (1984), the following drawing parameters were excluded from Chi-square analysis as more than 20% of these parameters obatained frequencies of less than five. These parameters were, figures playing with ball and feet missing.

Action drawing parameters not utilized by either group included hitting, throwing, dressing, combing, looking, fighting, hurting, kicking, biting, burning, being hit, being kicked, being burned, being shot and being killed. Therefore these parameters were excluded from Chi-square tests of association, according to the recommendations of Speigal (1956). Positional parameters not utilized by either group included, two barriers and three barriers. Characteristic parameters not utilized included, very unfriendly expression, face absent, feet 1/4 length of leg, shading, arm 0 -1/8 length of body. Style parameters not used by either group included edging, folding compartmentalization, underlining individual figures, bird's eye view and lining on the bottom.

Chi-square tests of association were employed to examine the extent to which adults and adolescents differed in their use of the remaining KFD drawing parameters.

Working, laying together, sitting, doing, reading, no communication, presence of fields of force achieved non-significant results in the Action dimension. The only significant result obtained was that of the drawing parameter `standing'. In the Positional dimension, one barrier, figure facing, figure not facing, no barriers, united group, disparate individuals, subgroups, no interaction by drawer, with one or both parents and with sibs/children achieved non-significant results. Chi-square tests of association of no hands, complete, self drawn on the same level as others, use of arm extentions and neutral facial expression in the Characteristic dimension achieved non-significant results.

The only Style drawing parameter subjected to Chi-square analysis, compartmentalization, achieved non-significant results.

5.2.3. Analysis of `action' content

As parents and adolescents appeared to depict themselves and be depicted by significant others according to recreational or work-related activities in pilot testing, the `action' content of each drawing was noted i.e. the `action' for each figure in every drawing was noted and compared with the occupation and interests of each family member as stated by that member in a descriptive manner. Calculating cumulative percentages for these depictions, it was found that 20% of fathers were portrayed as involved in work-related activites, while 20.9% of fathers were portrayed in recreational-related activities. It was found that 25% of

mothers were portrayed as working while 31.3% of mothers were portrayed as involved in recreational activities. It was found that 6.3% of elder siblings were portrayed as working, while 64.58% were portrayed as involved in recreational activities. While 6.3% of younger siblings were portrayed as working, 43.73% were portrayed as involved in recreational activities.

5.2.4. Correlations of gender with KFD and FAD variables

A correlation matrix calculated between gender and KFD and FAD variables indicated that there was only one significant correlation between gender and these variables, namely gender and the Characteristic dimension of the KFD.

5.2.5. Inter-rater reliability

Pearson product moment correlations were calculated between scores pertaining to two raters for each dimension of the KFD. These correlations were significant at the 0.1 level, enabling this researcher to have confidence in the reported results of the study.

5.2.6. Post-experimental enquiry

A post-experimental enquiry indicated that a high percentage of research participants had been `deceived' regarding the purpose of the research and had not biased their responses according to the demand characteristics which operate in all experimental contexts.

5.3. Interpretation of results

Authors such as Hersen et al. (1984) suggest that researchers must be cautious when interpreting results. Generalizations should be made very cautiously, due to the lack of random sampling within this research. Bearing this in mind, the following results are interpreted. This will be augmented through inclusion of past studies and their findings.

5.3.1. Family functioning

The results have indicated that family functioning, according to the dimensions of the FAD, i.e. Roles, Behaviour Control, Affective Responsiveness, Affective Involvement, Communication, and Problem Solving appear to be implicated in Kinetic Family Drawings, thereby enabling the first hypothesis to be accepted i.e. family functioning will be depicted in the KFD. This finding corroborates the conclusions and findings of previous studies such as Schornstein and Derr (1978), Palkes et al. (1986), Shearn & Russell (1969), Levenberg (1975), Elin & Nucho (1979), Younger (1982), Candotti (1986) and Steenhuisen (1987). Thus, it has been empirically demonstrated that the KFD may be used to discern certain dimensions of family functioning.

It should be noted, however, that according to the canonical variable loadings, the FAD dimensions of Communication, Roles, Affective Responsiveness and General Functioning are especially implicated in Kinetic Family Drawings. Furthermore, the Action and Positional dimensions of the KFD appear to be implicated in FAD scores, in view of the fact that these dimensions were significantly correlated with the FAD variables and that together, they accounted for 80% of the variance in KFD scores.

It should be noted, that participant families appeared to be relatively well-functioning according to the General Functioning scores of the FAD, which in previous research have been shown to be reliable indicators of overall family functioning. Therefore, it is unknown whether these KFD dimensions would be implicated if participant families were less well functioning. It may well be that the remaining KFD parameters within the Characteristics and Style dimensions may be implicated in dysfunctional family systems. This should be verified by future research. Drawing parameters may be implicated in family functioning patterns will be discussed further in section 5.5.1., Implications of the present study.

As discussed in Chapter 2, section 2.8, these results imply that there may be epistemological links between the KFD and the FAD, and that furthermore, the integration of Psychoanalytically based and System's based instruments in one study may provide the researcher with important, meaningful information.

It should be noted, however, that as the first canonical variable between the two instruments was just significant (Refer Chapter 4, section 4.2.), further work will have to be concerned with elucidating the other aspects of individual and family functioning, not measured by the FAD but depicted in the KFD. As shown by the Chi-square analyses, many drawing parameters were not utilized by parents or adolescents; furthermore, General Functioning scores indicated that familes who participated in the present study were relatively well-functioning. Therefore, if other, less well-functioning groups were to be studied, further analysis of the relationship between dimensions of family functioning and the KFD could then be ascertained.

It is interesting to note that compartmentalization was the Style parameter primarily used by adults and adolescents. Taking into consideration that participant families were relatively well-functioning, it should be noted that previous research (Refer Chapter 1, section 1.7.7.) found that compartmentalization did not differentiate between groups of interest. It may be tentatively concluded that compartmentalization may be used by individuals who are relatively well-functioning individuals and may not neccessarily constitute a Style which will be used by more poorly functioning individuals, as previous research had indicated. Similarly, perhaps it may be tentatively concluded that the Styles not utilized by participants may represent Styles which will be used by more poorly functioning individuals. This conclusion does, however, require further verification.

5.3.2. Frequencies of choice by adults and adolescents

An exploration of the numbers of individuals employing drawing parameters was conducted and the results indicated that both parents and their children tended to utilize similar drawing parameters. One drawing parameter, standing, was used significantly more often by parents, than by adolescents. Why this should be so is uncertain; previous studies have not examined this drawing parameter in isolation. It should be noted, however, that `standing' was often used to depict togetherness amongst family members such as `all standing together'. Furthermore, the use of this drawing parameter might be construed as `non-compliance' i.e. drawing a figure standing does not require much effort on the part of the drawer. This is, however, a very tentative conclusion. Non-compliance is difficult to control for in any research project. During this research, the importance of full participation was stressed. The research design of this study allowed for the examination of

`non-compliance' through the use of a post-experimental enquiry to assess the effects of demand characteristics upon results. The results of the post-experimental enquiry suggest that participants attempted to be fully involved in the research and did not bias their responses on the KFD or FAD.

It could be concluded from the analysis of frequencies of choice, that parents and adolescents from relatively well-functioning families will utilize similar drawing parameters to depict their families. Therefore, the KFD may be considered a valuable Projective technique which could be used with relatively well-functioning adults to discern family functioning patterns. Similarly, it may be concluded that KFD depictions were not completely different across families. Thus, it may be tentatively concluded that the utilization of all family members' depiction may be more valuable indicators of family functioning. As these families were relatively well-functioning, and their use of drawing parameters were not vastly dissimilar, perhaps this trend may be found with other well-functioning families and, if found to be so may indicate whether families are functioning well. Thus, further investigation should examine whether drawing parameters which were used by the participants, would be significantly distributed in drawings of other well-functioning individuals.

Upon examination of the drawing parameters which were not used by participants, it is evident that they represent more violent and less attractive ways of depicting families. For example, Action drawing parameters not used by either group included, amongst others, hitting, fighting, hurting, being hit, and biting. It may be tentatively concluded that these variables will tend not to appear in depictions of relatively well-functioning families. They may, however, appear in poorly functioning families. The results of this

section do, however, allow the hypothesis that drawing parameters of the KFD will be used by both adults and adolescents to be accepted.

5.3.3. `Action' content of drawings

The results of this section indicated that higher numbers of fathers and mothers were depicted in work-related activities than the adolescents. This is to be expected, as fewer of the adolescents were involved in the business sector. An extremely high percentage of elder siblings were depicted in recreational activities. There appears to be no particular reason for this, except that these adolescents were generally older than their younger siblings and would probably have had increased opportunities to be involved in recreational activities. It is interesting to note that the numbers of mothers and fathers depicted in both work-related and recreational activities are similar. This may imply that mothers and fathers' activities within the participant families were perceived similarly by all family members. An indication of this is the percentages of mothers and fathers depicted by each family member (Refer Chapter 4, section 4.7.).

Upon examination of the various `actions' depicted, it interesting to note that mothers tended to be portrayed as involved in more nurturing-type activities such as cooking and gardening, while fathers are more often depicted as involved in more instrumental type activities such as fixing the car and the pool. This trend will, however, have to be investigated further in future studies.

Those families depicted as involved in a `family' type activity tended to have lower general functioning scores on the FAD. This may be an indication that families who are depicted by all members as involved in a particular family

activity together, may be functioning well. This conclusion will have to be substantiated by further empirical research.

It was concluded in Chapter 2, section 2.6., that, according to the McMaster model, that manifestation of well-functioning families would include, amongst others, clear roles for each family member which are fulfilled adequately. Interest and knowledge shown by individuals within a family for the activities of other members, may be demonstrating empathic involvement between family members.

Upon examination of the `action' content of participant's drawings, it is evident that individuals tend to be depicted as involved in separate activites. This may be indicative of relatively clear boundaries between family members, demonstrating empathic involvement. Furthermore, these depictions may be indications of adolescent strivings toward independence, as discussed by Ackerman (1984). This conclusion, is, however, tentative, and requires further verification.

The indication that a high proportion of adult family members were depicted as working may be indications that instrumental issues were addressed within particular families. Further, that many family members were depicted as involved in work-related or recreational activities may be indications that roles of members are clear to all.

Perhaps this conclusion is substantiated by the finding that the squared multiple correlations of each variable in the second set with all variables in the first set indicated that, amongst others, the KFD significantly predicted the Role dimension of the FAD. It is clear, however, that the previous tentative conclusions require further verification.

5.3.4. Gender of drawer

According to the results of the present study, gender of drawer does not appear to effect the KFD depictions, except for the the Characteristic dimension. The reason for this significant correlation is unclear. It should be noted, however, that this correlation was just significant at the 0.05 level. Furthermore, as the Characteristic dimension did not significantly predict any FAD dimension, it may be assumed that gender did not exercise a particularly strong influence upon the results of the present study.

Due to the varying ages with in the sample of the present study, it would seem as if gender of older and younger participants alike did not affect results. This substantiates the conclusion that the KFD may be used in conjuction with adult drawers. Furthermore, the findings of this section are consistent with previous research. As noted in Chapter 1, section 1.7.2.1., gender did not seem to significantly affect results of these previous studies. In the light of the findings of this section, the hypothesis stated in the research design of no differential effect is accepted.

5.3.5. Inter-rater reliability

The correlation coefficients between raters were found to be significant. Upon examination of each dimension it is evident that requirements for the presence or absence of parameters within the Positions and Characteristics dimensions are less rigorous than Actions, requiring the rater to assess amongst others `unrealistically small' , and `figure orientation' which are less specific than the other parameters contained within the remaining KFD dimensions. As the Action dimension contain parameters which are more specific, this may account for the higher inter-rater

reliability coefficient achieved within the Action dimension and the slightly lower, though significant, inter-rater correlations achieved for the Positions and Characteristic dimensions.

Examining the raw scores for the dimension Styles, it is evident that few parameters were utilized, and that scores between raters were similar, with many participants' scores being zero. This accounts for the slightly lower inter-rater correlation, in that scores had less range over which to vary. The inter-rater correlation was nonetheless highly significant.

Significant inter-rater reliability coefficients also indicate that the scoring format introduced by Burns (1972) and further developed by Steenhuisen (1987) may be used with some confidence by other researchers.

5.3.6. Post-experimental enquiry

Results pertaining to the enquiry indicated that the research design of the present study minimized the effects of demand characteristics during data collection. This was enforced through partially informing participants regarding the purpose of research, appealing to participants to help improve the KFD as suggested by Carlsmith et al. (1976), and collecting data in participants' homes, which introduced a relaxed environment to the data collection. Furthermore, data was collected separately so that responses by one family member did not influence responses by another family member.

5.4. Limitations of this study

It should be noted that the findings of the present study cannot be readily generalized to other populations. Firstly, a random sample was not employed, for reasons stated in Chapter three. Secondly, a comparison group was not used, which further limits the generalizability of results.

Evidence regarding trends within families could have been substantiated by the use of in-depth interviews. In discussion with Psychology Personnel, it was decided that, as this researcher is not clinically trained, ethical problems may have arisen in entering these family systems without adequate training. An attempt to derive more 'qualitative' information was, however, attempted by examination of the `content' of the drawings.

5.5. Implications of the present study and future research directions

It has been demonstrated that certain aspects of family functioning may be depicted within the KFDs of relatively well-functioning individuals. Furthermore, it has been established that KFDs may be used with adults from relatively well-functioning families. It has been discussed previously (Refer chapter 2 section 2.6.), that the FAD is a screening instrument. Due to the significant findings of this study, this may imply that the KFD should be considered a screening instrument only, i.e. the KFD may be used to discern certain trends of family functioning, which may then be explored through other techniques.

The following subsection will examine these trends in greater detail.

5.5.1. Guidelines for clinicians

As indicated in subsection 5.2.1., certain family functioning trends may be accessed through examination of KFD protocols. Canonical correlations between KFD and FAD protocols indicated that Action, Position, and Styles dimensions correlated significantly with the first canonical correlation, as did the Communication, Role, Affective Responsiveness, and General Functioning dimensions of the FAD. This indicated that the KFD protocols were illustrating aspects of the above FAD dimensions in the KFD protocols of well-functioning families i.e. family functioning patterns. Further statistical analyses examined the most frequently occuring drawing parameters in each KFD dimension.

KFD drawing parameters within the KFD dimensions implicated in the canonical correlation and Chi-square tests of association will be now be listed. As participants were considered well-functioning according to General Functioning scores on the FAD, it may be assumed that these parameters are indications of well-functioning families should they be used by drawers.

Action dimension:
Working
Playing together
Sitting
Standing
Doing
Reading
Fields of force

Positions:
One barriers
Figure facing
Figure not facing
No barriers
Disparate individuals
Subgroups
United group
No interaction by drawer (with others)
With one or more parents, with siblings

Style:

Compartmentalization

It should be noted that drawing parameters not utilized by participants in KFD dimensions correlating with FAD dimensions included hitting; throwing; dressing; combing; looking; fighting; hurting; kicking; biting; burning; being hit; being kicked; being cut; being burned; being shot; being killed (Action dimension); two barriers; three barriers (Positions); edging; folding compartmentalization; lining on the bottom of the page; underlining individual figures and bird's eye view (Style).

It may be tentatively concluded that clinicians who observe these drawing parameters may be alerted to more poorly family functioning patterns. As the present study constitutes a first attempt at elucidating the family functioning patterns in KFD protocols, the guidelines discussed above should be considered a baseline, which must be verified by future research.

It was noted that the first canonical variable was just significant. This would imply that future research should be concerned with identifying the other variables the KFD may be measuring. This could occur through the use of other family assessment techniques such as the Beaver's System Model and the Circumplex Model of Family and Marital Family Systems outlined in Chapter 2, section 2.4.2.2. Previous studies have indicated that repetory grid methods are useful in analyzing family transactions (Refer Chapter 2, section 2.7.1.). Perhaps these too, may be used in conjunction with the KFD. If the KFD should be used as a screening instrument only, it would seem imperative to utilize the KFD in conjunction with other techniques. As Anastasi (1976) has pointed out, Projective techniques may only prove useful when combined with other other measures.

Future research should be concerned with the exploration of the trends found in this study with other well-functioning families. If these trends reoccur, more poorly functioning subjects should be studied, to assess whether the KFD may be used to discern dysfunctional family systems.

5.6. Conclusion

This chapter has examined the findings of the present study and attempted to locate these findings within the context of past literature. It is clear that, as this research represents the first attempt to utilize all family members' KFDs in conjunction with family assessment methods in an empirical manner, that these findings may represent important and valuable information for researchers and clinicians. The findings of the present study should, however, be interpreted cautiously for the reasons stated in previous sections. As noted in Chapter 1, section 1.2.1., many instruments may prove valuable in areas other than what they were originally intended for. The present research has

indicated that this may be so in the case of Kinetic Family Drawings. It is hoped, however, that the findings of the present research contributes in some measure to work with Kinetic Family Drawings in Clinical settings.

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APPENDIX A

Scoring Format for the Kinetic Family Drawing

Actions

1. Figure Activity Level	drawer	sibling	mother	father
Laying	0	0	0	0
Sitting	1	1	1	1
Standing	2	2	2	2
Reading	3	3	3	3
Riding	4	4	4	4
Doing	5	5	5	5
Running	6	6	6	6
Throwing	7	7	7	7
Hitting	8	8	8	8

2. Figure Cooperation	drawer	sibling	mother	father
No cooperation	4	4	4	4
Working	3	3	3	3
Helping	2	2	2	2
Playing together	1	1	1	1
Working together	0	0	0	0

3. Narcissism	drawer	sibling	mother	father
No narcissism	0	0	0	0
Dressing	1	1	1	1
Combing	2	2	2	2
Grooming	3	3	3	3
Looking (mirror)	4	4	4	4

4. Sadism	drawer	sibling	mother	father
No Sadism	0	0	0	0
Hitting	1	1	1	1
Fighting	2	2	2	2
Hurting	3	3	3	3
Kicking	4	4	4	4
Biting	5	5	5	5
Burning	6	6	6	6
Shooting	7	7	7	7
Killing	8	8	8	8

5. Figure Communication Level	drawer	sibling	mother	father
Sleeping	6	6	6	6
Watching	5	5	5	5
Listening	4	4	4	4
Talking	3	3	3	3
Laying (with)	2	2	2	2
Touching (person)	1	1	1	1
Holding (person)	0	0	0	0

6. Masochism	drawer	sibling	mother	father
No Masochism	0	0	0	0
Smoking	1	1	1	1
Being hit	2	2	2	2
Being kicked	3	3	3	3
Being Cut	4	4	4	4
Being Burned	5	5	5	5
Being Shot	6	6	6	6
Being Killed	7	7	7	7

7. Nurturance	drawer	sibling	mother	father
No Nurturance	7	7	7	7
Planting	6	6	6	6
Helping	5	5	5	5
Grooming (each other)	4	4	4	4
Looking	3	3	3	3
Touching	2	2	2	2
Holding	1	1	1	1
Feeding	0	0	0	0

8. Tension	drawer	sibling	mother	father
No Tension	0	0	0	0
Slipping	1	1	1	1
Hanging	3	3	3	3
Falling	4	4	4	4

9. Fields of Force — Score 2 per item

Figures playing with ball
Presence of electrical appliances/fire/lights/ sun

TOTAL:

<u>Positions, Distance and Barriers</u>

1. Number of barriers between Self figure and others score 0,1,2...per barrier

2. Figure Orientation

Score 1 for every figure not facing another

3. Physical Proximity

United Group	0
Disparate Individuals	1
Subgroups	2
Self with no-one	3

4. Interaction of Self

With no-one	3	
With parents	1	
With entire family	0	
With one sibling	1	TOTAL:

Characteristics

1. Arm Length	drawer	sibling	mother	father
Arms missing	3	3	3	3
0-1/8 length of body	2	2	2	2
1/2 length of body	0	0	0	0
greater than 3/4	3	3	3	3
No hands	3	3	3	3

2. Body	drawer	sibling	mother	father
Absent	5	5	5	5
Head Only	4	4	4	4
Head and Neck	3	3	3	3
Head,neck and torso	2	2	2	2
Head,neck,torso,leg	1	1	1	1
Complete	0	0	0	0

3. Eyes	drawer	sibling	mother	father
Absent	2	2	2	2
Eyes with no pupil	1	1	1	1
Complete	0	0	0	0

4. Facial Expression	drawer	sibling	mother	father
Very friendly	0	0	0	0
Friendly	1	1	1	1
Neutral	2	2	2	2
Unfriendly	3	3	3	3
Very Unfriendly	4	4	4	4

5. Face	drawer	sibling	mother	father
Absent	3	3	3	3
Eyes only	2	2	2	2
Eyes,nose or mouth	1	1	1	1
Eyes,nose and mouth	0	0	0	0

6. Roots	drawer	sibling	mother	father
Feet missing	3	3	3	3
Feet on wheels	2	2	2	2
Feet 1/4 length of leg	1	1	1	1
Feet 1/2 length of leg	1	1	1	1
Feet size normal	0	0	0	0

7. Complete Family — Score 1 for every member not present

8. Size of parents

Unrealistically Large	1
Unrealistically small	1

9. Teeth present

Absent	0
Present	1

10. Relative height of figures

Unrealistically small	1
Unrealistically large	1

11. Ascendance

Below others	1
Above others	score 1 for every figure under the drawer
Next to others	0

12. Precarious figures — score 2 per figure

13. Bizarre figures — score 2 per figure

14. Erasures — score 1

15. Arm extensions — score 1 per extension

16. Figure on the back of the page — score 5 per figure

17. Rotation of figures — score 1 per figure

18. Shading — score 1 per figure

19 Line Quality

Light, broken, uneven	1
Heavy, overworked	1

20. Evasions

Stick Figures	score 1 per figure
No action	score 1 per figure

21. Missing essential parts — score 1 per figure

TOTAL:

Styles	Absence	Mildly sug.	Mod. sug.	Strong. sug.	Comp.
Compart.	0	1	2	3	4
Edging	0	1	2	3	4
Encaps	0	1	2	3	4
Folcol	0	1	2	3	4
Lin Bot	0	1	2	3	4
Undlif	0	1	2	3	4
Birdiv	0	1	2	3	4

TOTAL:

APPENDIX B

FAD Instructions to participants

APPENDIX C

The McMaster Family Assessment Device Questionnaire

APPENDIX D

Standardised introduction by school Psychologist

Hello, my name is..... I am the school Psychologist at ..... I have been asked by a Masters student of Psychology to phone parents to find out whether they and their family would like to participate in a research project. if you would like more information, I will give your name and number to the student, and she will then contact you and give you a little more background information about the project.

APPENDIX E

Screening Questionnaire

Hello, my name is Jennifer Parsons. I am the Masters student that.....told you about. My primary interest is in drawings. There is one form of drawing called the Kinetic Family Drawing. There are some difficulties with it - so I need to collect alot of family drawings so I can see if I can improve aspects of it; for example aspects of the scoring procedure need some revision. I will also need you to fill out a questionnaire, which will help me to improve the drawing. So if you'd like to participate in this, I'd need about one and a half hours of your family's time. Of course, all responses would be confidential. I will need to ask you some questions before we can get going. These questions will help me to make sure that all the families that are going to participate will be similar.

1. Is this your first marraige?
2. Do you have two children?
3. Are your children still living with you?
4. Are your children your biological children i.e. are they adopted?
5. Is your family first language English speaking?
6. Have any of your family members any physical handicaps?
7. Have any members of your family any long-standing psychiatric illnesses?
8. Have you any relatives staying with you?
9. Are any of your family members on medication?

Thanks very much. Could we make a tentative date for me to come around?

APPENDIX F

Post-experimental enquiry

Hello, my name is.....
I am phoning on behalf of Jennifer Parsons. I am her research assistant. As you know from her letter, she has asked me to phone you to find out how you found the research project that you participated in. I am going to have to ask your whole family. Could I possibly make an appointment to see you and your family. There are just a few questions, but I will have to ask each member of your family separately.

Questions asked by telephone or in person:

1. What did you think the purpose of the research project was?
2. Why did you agree to participate?
3. What did you think of the drawing task?
4. What did you think of the questionnaire?
5. Were Jennifer's instructions clear?

Each participant was then debriefed as to the purpose of the study.

APPENDIX G

Letter sent to research participants regarding post-experimental enquiry

8-805 Academy Close
Victoria, B.C.
V8V 2X8 Canada

Dear .....

I hope that you and your family are well. As you can see by my letter, I am writing to you from Canada. I am visiting my parents and plan to work here for a while, which will enable me to tour some of this country.

I have been asked by my supervisor to complete some back up work to the research project. It would involve your family answering some simple questions regarding the project. As I will be unable to complete this in person, I am writing to ask for permission to supply your name and number to a fellow Masters graduate who has agreed to complete this task for me. Should you have any objections to this, please let me know at the above address. Should I not hear from you two months from the above date (to allow for mail time), I will pass your number along to my cohort. She will then contact you and negotiate some time to interview your family.

Thank you once again for your participation.

Yours sincerely

Jennifer Betts (nee Parsons)

APPENDIX H

Summary tables of occupations and interests of participants

Family One

	F	M	ES	YS
F	working	cooking	computing	doing homework
M	working	reading	computing	doing magic
ES	working	reading	computing	reading
YS	working	watering plants	computing	doing homework
O	technician	housewife	scholar	scholar
I	electronics	reading	computers	studying magic
Gef:	1.6	1.5	1.4	2.1

Family Two

	F	M	ES	YS
F	sitting	teaching	with family	drinking
M	going to work	with family	at varsity	squash
ES	with family	with family	with family	with family
YS	woodworking	teaching	standing	at beach
I	Consultant	art teacher	student	scholar
	Engineer	Sailing	painting	sailing
	sailing			
Gef:	2.1	1.6	1.6	1.8

Family Three

	F	M	ES	YS
F	smoking	working at desk	cycling	Watching TV
M	working at desk	doing housework	skateboarding	riding
ES	working at desk	planting	riding	skateboard
YS	working at desk	doing housework	skateboarding	ballet
O	Managing Director	social worker	scholar	scholar
I	Work	children	skateboarding	ballet
Gef	1.6	2.2	2.4	2.6

Family Four

	F	M	ES	YS
F	playing tennis	computing	watching TV	dancing
M	playing tennis	reading	watching TV	dancing
ES	playing tennis	reading	playing cards	dancing
YS	playing tennis	computing	watching TV	dancing
O	Clothing Agent	secretary	scholar	scholar
I	work	computers	TV	dancing
Gef:	1.6	1.8	1.8	1.3

Family Five

	F	M	ES	YS
F	all standing together			
M	all standing, holding each other			
ES	all standing together			
YS	all standing holding each other			
O	lawyer	housewife	student	scholar
I	classical music	sewing	cello	dancing
Gef:	2	1.8	1.2	1.4

Family Six

	F	M	ES	YS
F	working	cooking	working	cycling
M	reading newspaper	cooking	reading	playing piano
ES	all seated at table			
YS	reading newspaper	gardening	eating	playing piano
O	retired	housewife	student	scholar
I	hiking	gardening	travelling	piano
Gef:	2.1	1.7	1.5	2

Family Seven

	F	M	ES	YS
F	sleeping	ironing	knitting	reading
M	eating	unravelling wool with ES		eating
ES	reading newspaper	watching TV	watching TV	
YS	reading newspaper	knitting	knitting	talking on ph.
O	carpenter	secretary	nursing student	matric
I	relaxing	cooking	knitting	talking on ph.
Gef:	1.7	2.3	1.9	2

Family Eight

	F	M	ES	YS
F	tasting wine in bath		reading	playing with dog
M	playing squash	gardening	reading	helping mom
ES	reading newsp.	creating art	reading	watching TV
YS	grooming	painting	reading	reading
O	lawyer	reg. nurse	scholar	scholar
I	squash	gardening	reading	watching TV
Gef:	2.1	1.7	2.3	2.7

Family Nine

	F	M	ES	YS
F	golfing	sleeping	play. tennis	watching TV
M	golfing	riding in car	studying	playing violin
ES	golfing	piano	singing	playing violin
YS	golfing	piano	tennis	tennis
O	teacher	music teacher	scholar	scholar
I	sport	family activities	sport	sport
Gef:	2.6	3	1.7	1.9

Family Ten

	F	M	ES	YS
F	at work	cleaning	eating	playing guitar
M	at work	doing yoga	windsurf.	playing at army
ES	at work	driving	waterskiing	watching TV
YS	at work	cooking	sleeping	building models
O	director	reflexologist	scholar	scholar
I	sailing	yoga	waterskiing	building models
Gef:	3	2.9	3	1.7

Family Eleven

	F	M	ES	YS
F	carpentry	cooking	watching TV	listening to music
M	at work	cooking	playing tennis	smiling
ES	gardening	cooking	helping someone	studying
YS	all holding hands			
O	carpentry	housewife	scholar	scholar
I	carpentry	cooking	playing tennis	tennis
Gef:	1.6	2	2	1.8

Family Twelve

	F	M	ES	YS
F	standing with children	cooking	standing with father	
M	all standing together			
ES	fixing something	cooking	at school	playing music
YS	all sitting at the table			
O	Sales Rep	housewife	scholar	scholar
I	Politics	cooking	reading	watching birds
Gef:	1.6	1.6	2	1.2

Family Thirteen

	F	M	ES	YS
F	driving	knitting	reading	on phone
M	working on telephone		talking	watching TV
ES	working on phone		reading	drawing
YS	working	cooking	flying	doing photography
O	accountant	bus. woman	scholar	scholar
I	sport	reading	nature study	flying
Gef:	1.5	1.6	1.6	2.2

Family Fourteen

	F	M	ES	YS
F	smoking	driving car	hairdressing	on phone
M	smoking	playing tennis	smoking	on phone
ES	watching TV	running	eating	on phone
YS	smoking	eating	cutting hair	on phone
O	watchmaker	housewife	hairdresser	scholar
I	choir	family	hairdressing	at gym
Gef:	2	1.6	1.5	1.3

Family Fifteen

	F	M	ES	YS
F	jogging	grooming	on phone	watching TV
M	running in kitchen		on phone	watching TV
ES	all in a car going out			
YS	running	watching dad	on phone	going for a run
O	director	boutique owner	scholar	scholar
I	running	music	drama	photography
Gef:	1.7	1.5	1.1	1.4

Family Sixteen

	F	M	ES	YS
F	all watching TV together			
M	all eating together			
ES	all eating together			
YS	all hugging each other			
O	director	bus. woman	scholar	scholar
I	sport	sewing	listening to music	drama
Gef:	1.1	1.3	1.3	1.6

Family Seventeen

	F	M	ES	YS
F	going to work	grooming	reading	working
M	playing hockey	cooking	reading	listening to music
ES	playing hockey at shop		rock climbing	working
YS	Mother and father lying together in car watching TV			
O	director	saleslady	student	salesmanager
I	people	suntanning	reading	girl friend
Gef:	1.9	1.9	2.0	2.3

Family Eighteen

	F	M	ES	YS
F	everyone at a picnic			
M	everyone swimming			
ES	washing car	hanging out clothes	cooking	playing with dog
YS	washing car	suntanning	drying hair	with dog
O	skin sorter	housewife	scholar	scholar
I	running	suntanning	cooking	electronics
Gef:	1.4	1.9	2.2	1.9

Family Nineteen

	F	M	ES	YS
F	shooting	vacuuming	diving	dancing
M	going for a walk with F.		diving	ballet
ES	shooting	working	diving	ballet
YS	cleaning car	housework	diving	ballet
O	director	home exec.	scholar	scholar
I	camping	helping people	diving	dancing
Gef:	1.4	1.8	1.3	1.8

Family Twenty

	F	M	ES	YS
F	typing	drawing	piano	drawing
M	all seated at dinner			
ES	ham radio	knitting	piano	ballet
YS	all seated at dinner			
O	journalist	housewife	student	scholar
I	electronics	knitting	jazz piano	building with wood
Gef:	1.8	1	1.2	1.2

Family Twenty-One

	F	M	ES	YS
F	fixing car	sewing	fixing bike	listening to music
M	listening to music	knitting	fixing bike	as above
ES	mom and dad going to church		watching a girl	as above
YS	going for a walk	reading	fixing bike	listening to music
O	technician	clerical assistent	scholar	scholar
I	listening to music	knitting	watching girls	listen to m.
Gef:	1.9	2	2.6	2.6

Family Twenty-Two

	F	M	ES	YS
F	digging in garden	watching F	looking at F.	cooking
M	playing golf	doing patchwork	reading	singing
ES	working at desk	talking	knitting	singing
YS	working at desk	patchwork	knitting	singing
O	civil servant	housewife	student	scholar
I	sport	patchwork	reading	singing
Gef:	1.8	1.3	1.9	2.4

Family Twenty-three

	F	M	ES	YS
F	all moving towards one another			
M	drinking tea	others all going to tennis		
ES	all playing table tennis			
YS	reading	gardening	reading	karate
O	manager	bookkeeper	scholar	scholar
I	messing about	gardening	sports	reading
Gef:	2	1.9	2.3	1.5

Family Twenty-four

	F	M	ES	YS
F	relaxing	exercising	reading	tennis
M	beekeeping at bank		playing tennis at gym	
ES	making pancakes	playing tennis at beach		on phone
YS	working	playing tennis	reading	at gym
O	beekeeping	bank clerk	bank clerk	scholar
I	skindiving	tennis	relaxing	gym
Gef:	2.3	3.1	2.1	2.3

APPENDIX I

Global scores of the KFD categories Actions, Positions, Characteristics and Styles

Rater One/ Rater Two

Actions		Positions		Characteristics		Styles	
71	69	11	12	21	30	4	3
85	80	8	10	36	40	1	2
87	80	8	10	40	52	0	0
87	80	8	11	29	20	4	6
81	81	8	6	33	50	0	0
76	79	4	6	16	10	0	0
67	65	6	5	10	20	0	0
79	70	8	5	21	15	0	4
54	45	4	3	27	33	0	0
84	80	5	7	21	15	0	0
82	75	8	7	14	30	0	0
87	80	8	6	18	26	0	0
76	70	3	5	10	24	0	0
76	70	7	8	18	24	0	2
76	70	7	8	8	25	0	0
84	79	6	8	15	30	0	0
71	65	7	5	5	20	0	0
24	20	3	5	9	20	0	0
65	50	8	9	21	26	0	1
24	19	4	7	4	10	0	0
81	72	8	10	42	59	0	0
76	69	5	18	15	22	0	2
39	30	3	5	38	44	0	0
68	50	8	9	40	55	0	0
52	40	8	10	21	30	0	1
71	50	7	11	36	50	1	2
60	50	8	11	12	20	1	1
81	70	7	5	21	35	3	4
72	50	7	5	39	50	0	0
59	45	7	6	39	60	0	0
84	70	9	7	15	25	0	0
86	70	10	12	12	26	4	4
87	68	8	5	19	30	0	0
79	70	6	5	33	50	0	0
87	78	7	9	11	15	0	0
91	80	11	12	11	24	4	4
89	80	8	10	35	20	0	0
89	80	9	5	24	15	0	0
89	80	11	9	50	57	4	3
76	59	10	9	43	24	4	4
81	69	6	7	39	29	0	0
81	70	6	8	39	43	0	0
73	60	7	10	24	35	0	0
24	35	4	9	11	26	0	0
76	90	8	7	37	44	0	0
76	90	8	7	15	27	0	0
69	50	15	13	17	22	0	0
32	50	4	8	34	49	0	0
79	50	8	9	36	44	0	0

80	75	9	10	6	25	0	0
84	80	7	5	12	19	0	0
81	60	9	15	20	15	0	1
89	70	8	7	49	40	0	0
68	68	8	10	23	35	0	0
76	80	7	11	25	33	0	0
80	90	8	9	18	29	0	3
94	80	8	10	15	18	0	0
95	82	11	10	21	14	0	0
72	59	5	7	32	39	0	0
76	59	4	5	13	25	0	0
58	42	3	6	35	27	0	0
20	32	2	5	26	38	0	0
16	21	4	9	18	12	0	0
21	16	0	2	4	16	0	0
78	70	8	12	32	45	0	0
82	71	8	10	18	23	1	3
62	80	8	10	13	25	0	0
27	30	11	13	17	25	4	3
49	60	4	7	23	36	0	0
32	39	2	1	36	20	0	0
30	40	7	9	11	25	0	0
52	80	9	10	29	35	0	0
91	80	12	13	30	22	0	2
52	60	8	11	0	18	0	0
84	95	6	8	23	30	0	2
58	60	8	10	14	25	0	0
71	60	7	10	12	26	0	0
20	38	1	3	21	18	0	0
79	90	6	9	17	26	0	4
20	20	1	3	13	20	0	0
94	100	8	10	50	39	0	0
86	98	8	10	42	59	0	0
90	83	7	5	13	26	4	4
75	69	8	10	11	15	0	0
76	65	4	8	25	31	1	2
85	70	8	11	13	9	0	0
79	62	11	13	13	26	4	3
90	83	8	10	26	35	0	0
68	50	8	5	32	15	0	0
51	41	5	6	26	19	0	0
53	45	1	5	37	49	0	0
86	72	7	8	27	55	0	0
83	80	7	9	35	59	0	0
89	70	9	11	15	23	0	0
83	75	9	11	14	20	0	0
90	98	6	4	25	38	0	1